

AUGUST 1981

REPEATER JOURNAL



CVRA-South Eastern Repeater Association, Inc.

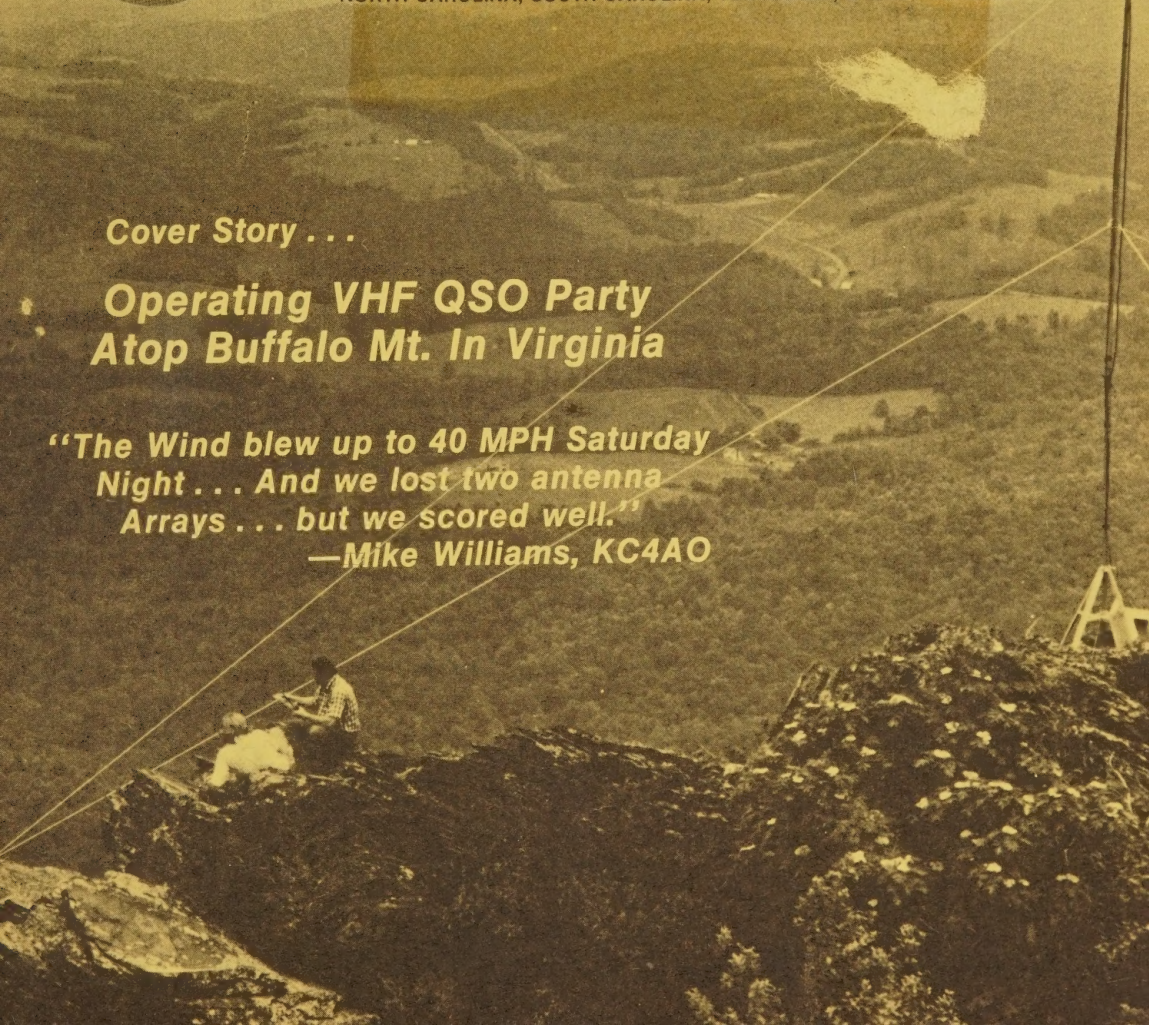
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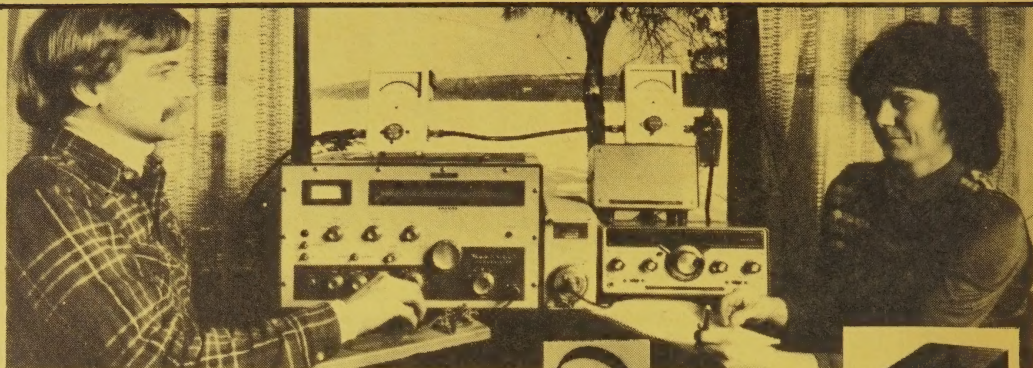
Cover Story . . .

Operating VHF QSO Party Atop Buffalo Mt. In Virginia

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REPEATER JOURNAL



CVRA-South Eastern Repeater Association, Inc.

AUGUST - OCTOBER 1981

"IN OUR 10th YEAR"

VOLUME 10, NO. 3

ORGANIZED 1971

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ON THE COVER

PERCHED on a rock atop Buffalo Mountain, Va. the AB4L 6-meter antenna system awaits action in the June VHF QSO party. (Photo Mike Williams, KC4AO)

CVRA REPEATER JOURNAL EDITORIAL COMMENT

No Time To Be Bashful . . .

Every year it's the same thing . . . elections. This year is no different. By Jan. 1, 1982 SERA will have a new President, Vice-President, Secretary and Treasurer.

This very important period is coming up, and over the coming months, a nominating committee will be searching for candidates to be installed in these four offices. You as a FULL MEMBER of SERA can participate. If you have someone in mind who would be an asset to our organization, you should talk with them about the possibility of running for the office.

The nominating committee as in the past will probably nominate only one person to each office. If no additional nominations come from the membership at-large, there will be no election and the nominees will be proclaimed elected. If, however, someone else is nominated from the membership, an election is required with mail ballots.

I personally opt for the election. We haven't had a good election in years, mainly because we had a problem finding ONE person who would take an office. The REPEATER JOURNAL staff is going to make it easy for you this election time. In this issue of the JOURNAL is an application with instructions of how you can nominate someone for one of the four offices.

Continued On Page 26

MY VHF QSO PARTY CRUSHED . . .

It was one of those rare occasions . . . you get an invite from a young go-get-um group to help operate the VHF Contest. They were planning a mountain-top endeavor in southwestern Virginia. The mountain was perfect for VHF-UHF, so I decided to participate, especially after they told me I could work my favorite contest band . . . 220 mhz FM. All I had to do was show up, and at the assigned time, start working.

Everything went fine, I worked out the trip on the road map, noting a 3 hour drive to get to the 4,000-foot mountain to meet my brother Mike, KC4AO who was coming up from Danville. I planned what I would wear, keeping in mind the coolness of a mountaintop at night and the scorching sun in the daytime. I even picked out a cut of meat which would join other choice steaks to be cooked Saturday night around the campfire.

Then it happened! I decided, why not refresh myself with the rules of the QSO Party. I located the rules in the May QST, scanned down them and suddenly I couldn't believe what I saw.

The ARRL Contest committee had seen a need, I guess, to limit FM operation on 223.50 mhz to only 4 hours during the contest weekend, similar to the limitations on 146.52 on 2-meters. To the average layman, this might not seem

Continued on Page 26

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AUGUST - OCTOBER 1981

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SPECIAL NOTICE: Associate Membership deadlines are now on the 15th of the month preceding months of publication (Jan. 15, Apr. 15, July 15 and Oct. 15.) Persons joining or renewing must have their application into the Greensboro P.O. Box by those deadlines to receive the next upcoming Journal. Memberships recieved after deadline will not recieve a REPEATER JOURNAL until the next issue comes out some 3 months later. Memberships received at hamfests will receive a current REPEATER JOURNAL as long as supplies are available.

The CVRA REPEATER JOURNAL is published quarterly, during the months of February, May, August and November of each year and mailed free to members of CVRA-Southeastern Repeater Association, Inc. Permission is granted for use of CVRA REPEATER JOURNAL material, providing credit is given. The JOURNAL will swap newsletters with other Repeater Councils and News organizations on request. The CVRA REPEATER JOURNAL press run is 4,000 copies with circulation in excess of 3,500 copies and is entered as Third Class Mail at the Post Office in Greensboro, N.C. The Full and Associate Membership mailing address is CVRA-SERA, P.O. Box 5655, Greensboro, N.C. 27403. All news and Newsletter exchanges should be mailed to the Editor and Publisher: Wayne C. Williams, K4MOB, 600 Lakedale Road, Colefax, N.C. 27235.

CVRA-SERA DIRECTORS TO MEET AT SHELBY

The CVRA-Southeastern Repeater Association Board of Directors will hold their annual meeting Saturday night, September 5 at Shelby, N.C. The meeting will be held in the Banquet room of the Governor's Inn.

After the Directors meeting, a membership meeting, open to the Amateur public will be held.

Lane Tarleton, KC4CD, president of CVRA-SERA said he favored the short Directors meeting prior to the full membership meeting because it had worked favorably over the past few years.

Directors, Vice-Directors, Officers and Apointees of CVRA-SERA are asked to join in a small sectioned off portion of the Banquet room at about 6:30 for dutch-treat dinner, followed by a working session and reports from Directors. After the closed meeting, a wall curtain will be opened so the officials can join others who might want to comment and participate in a general meeting, at about 8:00 pm.

Tarleton said the meeting should be over by 9:00 p.m. He said there were no big items on the agenda this year.

"In fact, he said, "things seem to be running quite smoothly."

One agenda presentation will be made by Charles Durst, WA4WTX, who was appointed by the president to search for prospective nominees for the officers whose terms expire December 31. An election is due this fall and winter for new officers.

Durst has responded by asking Directors and various other individuals to send him names of prospective nominees for the offices of President, Vice-President, Secretary and Treasurer. He said that any CVRA-SERA member who knows of a person who would be willing and make a good officer to send him their name for possible nomination by the nominating committee. Durst said he is seeking the best people he can find to lead the organization for the next two years. He reminded that a nominee for

an office must be a Full Member of CVRA-SERA, a representative of some full member repeater. Associate members are not eligible according to the bylaws to hold elective office.

Tarleton urged general membership to come to the meeting in Shelby and participate in the meeting. He said much good information can be gotten from people who share ideas at the meetings.

"Although participation was small the past couple of years," Tarleton added, "we got some good ideas of just how the general membership feels about our organization at these meetings."

He said it was a good time for people to come in and be able to discuss problems, questions or ideas with the people who actually run the organization.

President Tarleton, who will be presiding at his last official meeting of SERA before elections said he plans to continue the tradition started two years ago by outgoing president Charlie Durst. Durst initiated what he called the "President's Award", a handsome plaque, given to a person in the organization who in the eyes of the President has done an outstanding job for the Association. Tarleton said he would present such an award to someone at the general meeting Saturday night.

6-METER REPEATERS AND RC MODELING

—by Sam Kirby, WB4HAP

Just a reminder to frequency coordinators and others planning to put repeaters on six meters. Remember the even 100 khz RC assignments from 53.1 to 53.8 mhz. Due to a lack of selectivity in the small R.C. receivers, it is recommended to stay 50 khz away if at all possible. This would mean putting repeater outputs at 53.15, 53.25, 53.35, etc.

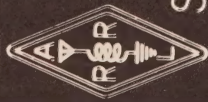
R.C. modeling is very popular in East Tennessee as well as many other areas. Many of the modelers are also hams. We certainly don't want one of our repeaters "shooting down" a shiny, brand new, \$400 model airplane.

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LOW POWER TV STATIONS MIGHT POSE AMATEUR PROBLEM

—by Jim Fitzgerald, K4OJE

It appears that a potential problem for Amateur Radio operators (and CB, Business, Police, Broadcasters, etc.) is developing in the applications before the FCC for several thousand low power (low antenna) type TV stations somewhat similar to the translators.

These stations will operate with relatively low power (on the order of 100 watts or less) and with relatively low antennas. They would be designed to cover a relatively small local area, part of a city, or would be received from standard high powered and high antenna broadcasters. There are approximately seven such applications pending for such services

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in the Richmond (Va.) area and probably in most cities.

With almost snowy pictures a short distance from such facilities, almost any kind of signal may overload or degrade reception and filters may not provide full protection to receiver front ends.

This will be much like your neighbors demanding full protection so that they may view TV reception from 100 or more miles away if they are not immediately adjacent to such transmitters.

Even a properly operating station with much less than a kilowatt may degrade or overload such a weak TV signal. Also with the spread of cable TV, the conversion of signals within these sealed systems may go across FM, Aviation, two and 1¼-meters.

If any leakage occurs it may get directly into the ham bands as well as other services. You may well get into the system also. This is the full responsibility of the cable systems to meet specifications as to radiation and susceptibility to external radiations. There have been reports that in some areas RF leakage is causing some concern to aircraft radio operations. (more information about the small TV stations may be obtained by reading the article in QST, April, Page 67)

(Editors note: If you experience problems with cable TV, the FCC would like to know about it, contact your nearest FCC field office and give them details.)

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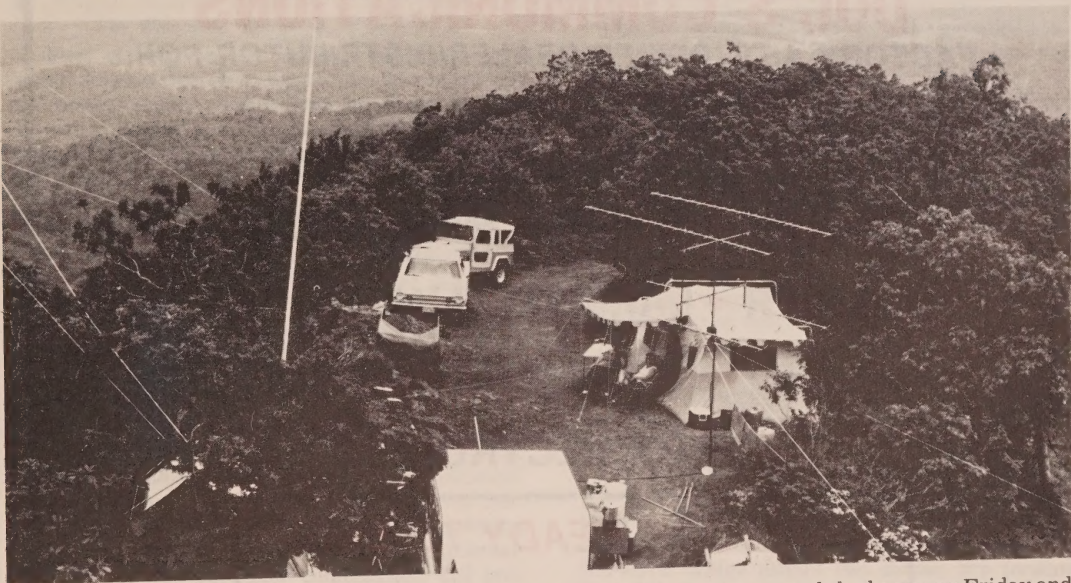
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MOUNTAINTOPPING WITH AB4L



—by Mike Williams, KC4AO

Writer's Note: The experiences described herein I'm sure are by no means unique. Scores of hams all over the country took to the hills for the annual June VHF QSO party. No doubt, each group had similar experiences to share with their fellow hams. This is merely one of many stories, the tale of a group of Virginia hams who went up on a mountain for the contest weekend.

(Buffalo Mountain, Va.) — Due West of Mabry's Mill just off the Blue Ridge Parkway is a 4,000-foot mountain whose ascent must have been a challenge even for early pioneers. The path to the narrow crest of the hill is little more than a washed-out, bumpy trail that makes you wish you had an old World War Two jeep rather than a shiny, cumbersome, family car. In a couple of spots near the top of the long trail all you can do is floorboard your car and hope it has enough power to reach the steep, rocky hill before it slows down and chokes out. I was driving one of those weak, 4-cylinder imported cars that's better known for its fuel economy than its raw power. About a hundred yards from the top of the mountain my little Mazda groaned and died, unable to muster the horsepower to complete the final leg of the journey. I abandoned my car on the side of the road and walked the remainder of the way of the 40-degree grade that I now refer to as "Cardiac Hill."

I was late getting there, being late Saturday

morning. Some brave souls had come up Friday and began putting up the tents we would use as operating positions. There were no trees on top of the narrow mountain. The hot sun reflected off the rocky crest, making it almost unbearable. I joined in an effort to erect two stacked 16-element KLM beams for 2-meter sideband, just as it began to rain. The anchor point for the 20-foot mast was a small, flat place in a cluster of rocks where an efficiently made homebrew tripod was to sit, precariously supported by guy wires. As we hoisted the array up the telescoping mast gave way and bent in the middle (they're famous for that.) The antennas came crashing down, destroying one of the KLMs on the rocks. An hour later after undoing the feedline harness and removing the bent portion of the mast we finally got it in place. We ran the coax to the small tent housing the 2m s.s.b. operating position . . . almost a hundred feet from the antenna. (This long run was necessary because it was impossible to find a flat spot any closer to the antenna on which the tent could be erected.)

The 6-meter s.s.b. beam was in place (pictured on the front cover of the Journal) and was ready to go. A 4-yagi array for 432 s.s.b. was ready as was the 11-element 220 beam and a single 16-element beam for 2-meter f.m., the latter two sharing the same rotor, and the same operating tent.

Continued On Page 16

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TEKNIKLE TOPIX — Filtered DC Power Supplies

by Watson R. Gabriel, Jr., WB4EXW

Most of us have seen articles in various ham publications concerning construction of a regulated dc power supply. These articles make for interesting reading and give us a chance to construct part of our equipment. Some are designed quite well but others seem to be put together with whatever parts happened to be on hand.

You may even have wanted to design your own power supply. Much information on regulator circuits can be found in data books from manufacturers of voltage regulator integrated circuits, for example. One area where information seems to be lacking is in the design of the dc filtered supply that delivers power to the regulator circuit that you have elected to use.

The main topic of this article is to describe how to calculate the values of the filter capacitor, load resistance, and the average, peak, and minimum output voltages of a capacitor-input filter for full-wave rectified supplies. By using the equations presented, you can determine if a particular transformer and capacitor combination will provide enough voltage to insure that your regulator circuit will operate correctly.

The basic schematics for a dc supply are shown in Figures 1a and 1b. Figure 1a is the full-wave

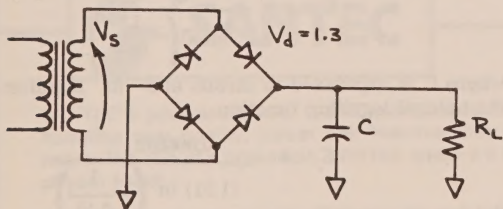


FIGURE 1A

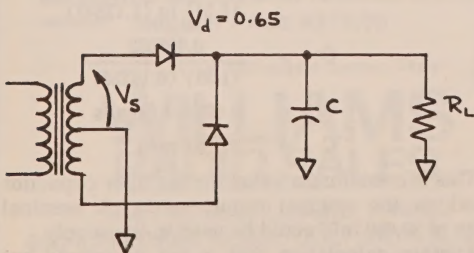


FIGURE 1B

bridge configuration and Figure 1b shows the use of a center-tapped transformer with a full-wave rectifier.

In these circuits R_L , the load resistance, represents the regulator circuit providing its rated voltage and current. Remember that the regulator circuit has losses so that its input voltage will have to be higher than its regulated output voltage. For example, our regulator may need to supply 13.8 vdc at 16 amps, but the minimum input voltage which we will call E_{min} may need to be 20 vdc because of the voltage drops across the regulator transistors, current limiting detector resistors, etc.

In these calculations we will have to specify the frequency of our line voltage, our transformer secondary voltage, the maximum load current, the rectifier voltage drop, and the maximum ripple voltage.

To make things a little simpler, it is sufficient for you to choose a maximum ripple voltage of 15-20 percent. Determining values for the voltage lost because of the diodes in the rectifier is easy. In the full-wave bridge circuit two diodes are forward biased during any one half-cycle so the loss is approximately $2 \times 0.65 = 1.3$ vdc. Only one diode is forward biased during a half-cycle in the full-wave center-tapped supply so the loss is only 0.65 vdc.

The output waveform with respect to time of the filtered dc supply will look something like Figure 2 when under load. Notice that a ripple voltage is present because of the load. The peak output voltage, E_{pk} , and minimum output voltage, E_{min} , are shown. Remember that the value for E_{min} must be larger than the minimum voltage required by our regulator circuit. The amount of time between some of the points marked on the waveform will be used

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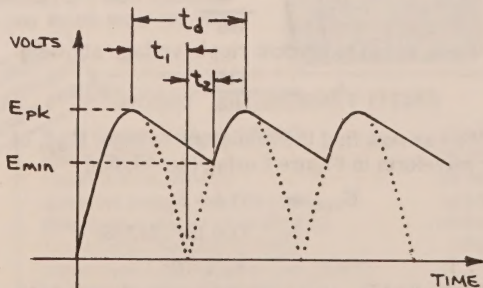


FIGURE 2

TEKNIKLE TOPIX

Continued From Last Page

in determining the filter capacitor value.

In our design example the first thing to do is to list our requirements:

- the supply is to operate from the 60 Hz line.
- a full-wave bridge rectifier will be used so this means that the diode loss is 1.3 vdc.
- a 15 percent ripple voltage will be allowed.
- the maximum load current is 16 amps.
- the minimum voltage to the regulator must be at least 19 vdc.

Let us assume that we can get a transformer that has an 18 vrms at 16 amp secondary. We must go through part of the calculations to see if this transformer is suitable. If it is, we can proceed with calculations for the filter capacitor. If it is not suitable, a different transformer will have to be selected and the calculations repeated. Having a secondary voltage that is substantially higher than needed will raise the power dissipated by our regulator unnecessarily.

First we must calculate the peak secondary voltage, E_{pk} , based on the transformer's secondary voltage:

$$E_{pk} = \sqrt{2} V_s - V_d$$

where V_s is the secondary rms voltage and V_d is our diode loss.

$$E_{pk} = \sqrt{2} (18) - 1.3 = 24.156 \text{ vdc}$$

Next we find the load resistance, R_L :

$$R_L = \frac{E_{pk}}{I_L}$$

where I_L is our maximum load current in amps.

$$R_L = \frac{24.156}{16} = 1.51 \text{ ohms}$$

Now we must find the value of the ripple factor, f_r :

$$f_r = \frac{e_r}{100}$$

where e_r is the percent ripple voltage allowed.

$$f_r = \frac{(15)}{100} = 0.15$$

We can now find the minimum voltage, E_{min} , of our waveform in Figure 2 using the relation:

$$\begin{aligned} E_{min} &= (1-f_r) E_{pk} \\ &= (1.0.15) (24.156) \\ &= 20.53 \text{ vdc} \end{aligned}$$

Notice that E_{min} is above our required value of 19 vdc so this transformer is suitable for our power

supply. We can now proceed with calculations for the filter capacitor, C .

First the value of t_2 must be found:

$$t_2 = \frac{[\arcsin(1-f_r)](\pi/180)}{2 f_L}$$

where the term $(1-f_r)$ is expressed in degrees and f_L is the line frequency in Hz.

$$t_2 = \frac{[\arcsin(1.0.15)](\pi/180)}{2 (60)}$$

$$t_2 = \frac{58.212 (\pi/180)}{376.99}$$

$$t_2 = \frac{1.01599}{376.99} = 0.002695 \text{ sec.}$$

Now that t_2 has been calculated, we need to find a value for t_d , the capacitor discharge time, shown in Figure 2:

$$t_d = t_1 + t_2$$

where $t_1 = 1/4f_L$

$$t_d = (1/4f_L) + t_2$$

$$t_d = (1/4(60)) + 0.002695$$

$$t_d = 0.004167 + 0.002695$$

$$= 0.006862 \text{ seconds}$$

From all the previous subcalculations we are now able to find a value for the filter capacitor, C :

$$C = \frac{t_d}{R_L \ln \left(\frac{1}{1-f_r} \right)}$$

where C is expressed in farads and "ln" signifies the natural logarithm function.

$$C = \frac{0.006862}{(1.51) \ln \left(\frac{1}{1-0.15} \right)}$$

$$C = \frac{0.006862}{(1.51) \ln (1.17647)}$$

$$C = \frac{0.006862}{(1.51) (0.16252)}$$

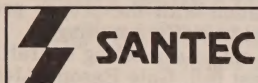
$$C = 0.027962 \text{ farads}$$

$$C = 27,962 \text{ mfd}$$

This is a minimum value for the filter capacitor based on the original requirements. A nominal value of 30,000 mfd could be used in the supply.

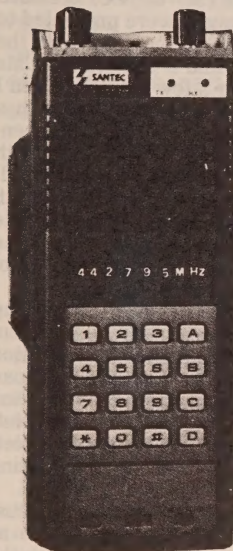
Another calculation that is not necessary but

Continued On Page 55



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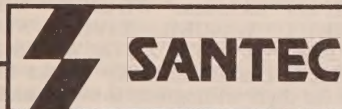
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HT 1200 309⁰⁰

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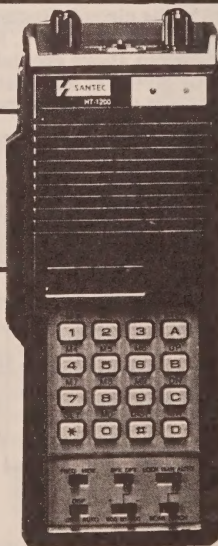
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Traffic Information Pool (TIP)

—by Carl Starnes, W4EAT

There has been formed in the North Carolina section under the auspices of the Section Communications Manager (SCM) a Traffic Information Pool (TIP). This group of amateurs is available to clubs, repeater groups, ARES groups, or any organized gathering of amateurs to present a program on traffic handling. The presentation is not intended to

A SIMPLE REGULATOR FOR 12-VOLT DC POWER SUPPLY

—by David Greene, WA4NVN

Here is a very simple way of providing regulation for your power supply. It can handle filtered unregulated voltage from 18 to 25 volts DC and provide regulated 13.8 VDC output or variable voltage, whichever way you wish to build it.

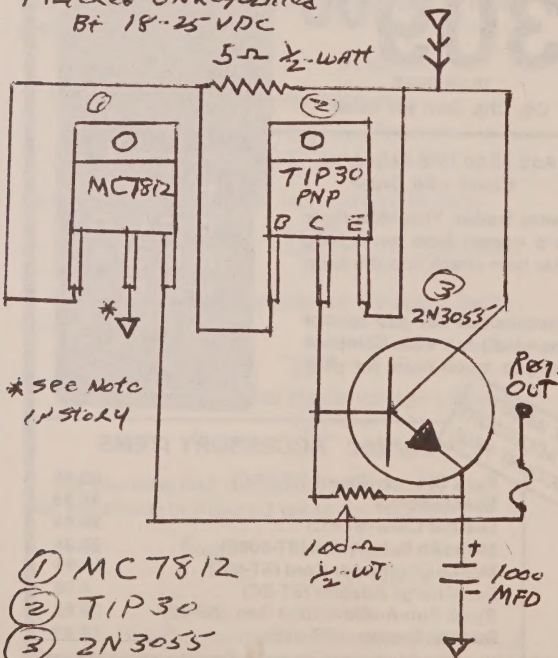
The regulator is capable of handling 5 amps continuous if heat sink or pass transistor is large enough. For additional current capacity, more 3055's can be added to the circuit. Regulation is superb.

*Note in diagram . . . For more than 12 VDC, bring the pin above ground with diode (s) or a pot. Pot will give you adjustable output. 3 diodes will give a fixed 13.6 VDC output.

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make everyone traffic handlers but to acquaint everyone at a presentation with the proper procedures and format used in traffic handling.

The TIP idea came out of a meeting of traffic handlers in Asheville last fall. Gale Eason, NJ4L, Section Traffic Manager (STM) of N.C. presided over the meeting and the results were presented to Bill Parris, AA4R, SCM of NC at the time. With the approach of holiday traffic and a change of SCMs the idea lingered in limbo for a few months. When I was approached by the Cabarrus ARS for such a presentation, I renewed the idea with Ed Stephenson, AB4S, who took over from AA4R as SCM. With an outline I prepared for the Cabarrus club, Ed, Gale and Herb Lacey, N4UE, (Asst. SCM) met with me for a discussion on the proposal. The outcome was to proceed with the preparation of the outline and recruitment of volunteers to present the program at club or group gatherings.

The presentation is now available and any group wishing to have this program at their meeting is encouraged to contact me. My address is: P.O. Box 188, Stanfield, N.C. 28163. Phone (704) 888-4815. I can also be reached via the following nets: Carolina Morning Net, 3927 KHz at 7:45 AM, the JFK Net, 3923 KHz at 6:30 PM, the Tar Heel Emergency Net, 3923 KHz at 7:30 PM, the Central North Carolina Traffic Net, 146.13/73 Salisbury at 9:30 PM. I monitor the Albemarle 146.385/985 and Locust 222.4/224.0 MHz repeaters. Please contact me as early as possible so that I can coordinate with the nearest volunteer and get him/her some handout material.

The TIPers includes: WD4DCY, WB4SLF, NB4L, K4DHX, WA4OBR, K4VHT, WD4SCH, WD4CNQ, WD4CNR, WJEH, KU4W, W8PJS, KF4R, K4XE, WB4ZIQ and W4EAT. My thanks to these volunteers for their willingness to serve and to Ed and Herb for their valued assistance. We have gone as far as we can, NOW it is up to the clubs and other groups to utilize this program. 73

DEATHS

DON MORRIS, W8JM

One of the best known, best liked and most active hams in West Virginia passed away in May. Don Morris of Fairmont, W8JM, had served as Ections Communications Manager for West Virginia and as Vice Director of the Roanoke Division.

BEN FARRIS, KA8BFX

Ben Farris, KA8BFX, a very active member of the East River ARC of Bluefield, West Virginia died recently. The club reports Ben will be missed greatly as he was a very good friend of all in the area, very active member in attending meetings and supporting all other activities.

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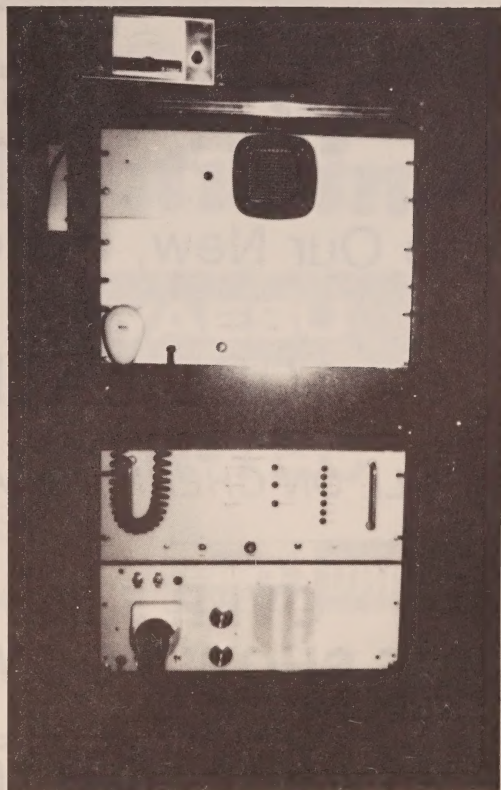
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MOUNTAINTOPPING WITH AB4L

Continued From Page 7



2-METER SSB antenna perched atop a rocky ledge. 50 mph winds Saturday night blew the system down, but it was re-erected Sunday morning. Just a few feet behind the antenna, there is a 1,000 foot drop, straight off the mountain.

As time for the contest arrived Dan and the AB4L Martinsville group were ready, aided by myself and three good contest operators from Danville. As a matter of information for new hams and those who have not gone on such a venture, listed below is the setup for each band used:

6m s.s.b. — A Swan 250 and a 6-element beam.

2m s.s.b.—Icom 251, a Johnson kilowatt amp and a 16-element KLM beam.

2m f.m. — A Kenwood TR-9000, a 100-watt solid state amp, and a 16-element beam.

220 mhz — A 10-watt Cobra transceiver and a 11-element beam.

432 s.s.b. — An Icom all-mode rig, a 100-watt amp and four stacked beams.

In addition, we had a generator for each operating position, plus an intercom system linking the three main operating positions.

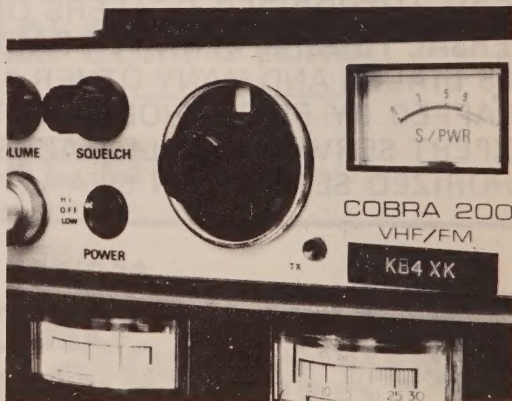
The stragedy was to start the 2-meter operation first on 146.52. Since the ARRL has put a severe, four hour operating maximum on 52 we knew it was the best time to pick up those helpful, casual operators who were not in the contest themselves, but generously provided contacts for people like us who were in the thick of the competition. This gave us a fast start, logging 50 contacts in 45 minutes on

52 simplex. At the end of the 45 minute sweep, we switched over to 2-meter sideband and retired 52 f.m. Listening and operating from time to time on 55 and 58 simplex, where there were no time restrictions for operating, was futile. The helpful, casual operators just weren't there like they were on 52.

At the end of the first operating period we shut down for the night shortly before 11 p.m. By then the temperature had dropped about 40 degrees from the daytime 90s and a wind had come up. By 1 a.m. the dense fog (or clouds) had settled on the mountain-top and the wind was gusting from 35 to 40 m.p.h. During this period I had to venture out of the small tent (which was the 2-meter f.m. and 220 operating position) to heed nature's call. I knew that approximately ten yards behind the tent the mountain dropped straight down for over a thousand feet, but I couldn't see the ledge due to the dense fog. Crawling out on a ledge, similiar to the one pictured on the cover of the Journal, I managed to complete my mission. Getting back to the tent I tried gain to get some sleep. The strong wind whipping the thin nylon tent made it impossible. As I lay there wondering if the tent was going to be blown off the side of the mountain, I began to pick up a strange roaring noise. I soon learned that it was an especially strong gust of wind coming through a narrow opening in the rocky ledge. The noise was similar to that made by a freight train, or someone racing the engine in a large truck. Once I heard the noise I could count exactly to five, then the gust hit the flimsy tent, lifting it skyward. From then until dawn I did little else other than listen to that roaring noise followed by the violent flapping of the tent being battered by the gusty wind.

Dawn found us wearily emerging from our tents fumbling around the pea-soup fog. Soon we discovered that the unceasing overnight wind had

Please Turn To Next Page



220 MHZ RIG unfortunately it got very little use, due to band restrictions during the VHF QSO party.

MOUNTAINTOPPING WITH AB4L

Continued From Last Page

blown down two of our four antenna systems. The 2-meter sideband antenna had come down again, and the mast holding the 220 and 2-meter f.m. (15 feet from where I had attempted to sleep) was lying on its side. (With the loud wind during the night I had not even heard the antenna fall. The 220 beam, a Cushcraft, was bent and twisted, but with the elements being made out of solid aluminum, we were able to bend it back into shape. Luckily, unlike the earlier fall, the KLM survived this time, having fallen in a cluster of small bushes near the rocky peak.

After re-positioning the fallen antennas operation began Sunday, with us eating breakfast in shifts. Halfway through the contest period we had already logged 2 dozen states on 6-meters, 20 on 2-meters, 2 states on 220 and 6 on 432 mhz.

As the day wore on and the fog finally disappeared due to the sun, we settled in for several hours of serious operating. The volume was provided by 2-meter and 6-meter sideband. Under the prevailing operating restrictions, 2-meter f.m. and 220 simplex operation were all but forgotten, although we still had some of our precious four

hours of operating time remaining on those two f.m. simplex frequencies.

As the day wore on we were assaulted by a blazing sun, and millions of gnats and small insects. The numerous coolers, and their precious icy contents saved the day as the temperatures again climbed into the 90s.

Shortly after noon a group of people on horseback visited the mountaintop, out on a casual Sunday ride. The riders left the scene sometime later but the evidence of their visit lingered. Those riders must have overfed those animals because they left piles of souvenirs behind. For the remainder of the day we had to watch where we stepped on the narrow mountaintop.

The day drew to a close. An air of excitement grew in the operators when someone did a rough estimate of the number of contacts and the projected score. Someone mentioned W4BFB's record, comparing it with our yield.

I won't speculate what the final score will be. I'll just await the results in QST with guarded optimism. One thing is for sure: They guys from Martinsville found a good mountain, brought good equipment, and operated with serious intent.

I'm glad I went along!

SOUTH CAROLINA CLUB MEETING CALENDAR

Information Supplied by clubs

ANDERSON - RC. 4TH Thur. 1930 Andsn. Cty. Arts Bldg. - Lunch Brk Fri. Noon, Quency's Steak House
CHARLESTON - Holiday VHF Soc. 2nd Wed. 2030 at Pinehaven Shopping Center Meeting Room
CHARLESTON - Charleston ARS, Inc. at Home Federal Meeting Room, Ashley Plaza S. S.
CHARLESTON - Trident ARC. 3rd Wed. 1930 at Park Cir. Presby. Church
CHERAW - Chesterfield Cty. ARS. 3rd Tue. 1900 at Chesterfield Technical Inst.
CLEMSON - Clemson Univ. ARC. - (During School Year - Posted prior to meeting)
COLUMBIA - Columbia ARC. 1st Mon. 1930 at S. C. Electric and Gas Building
DILLON - Dillon Cty. ARC. Each Mon. Informal, 2nd Mon. Formal 1900 at Lion's Club Bldg., Wash. St.
EASLEY - Altamont ARC. 4th Tue. 1930 at First Federal Bank Building
FLORENCE - Florence ARC. 1st Tue. 1930 at Shoney's
FLORENCE - Florence FM Repeater Assn. 3rd Mon. 1930 at Florence Darlington Technical Center
GREER - Greer ARC. 1st Mon. 1930. Meeting location announced monthly.
GREENVILLE - Blue Ridge ARS. 1st Tue. 1930 at Red Cross Building, 3rd Tue., Dinner.
GREENVILLE - The Dutch Lunch Club. Mon. 1245 at S&S Cafeteria
GREENWOOD - W. Carolina RS. 1st Mon. 1930 at Greenwood County Courthouse
KEOWEE - Keowee, Toxaway ARC. 3rd Tue. at Keowee, Toxaway Visitors Center
LANCASTER - Lancaster Cty. ARC. 3rd Thur. 1930 at USC, Lancaster Campus
LAURENS - Caro. Computer and ARA. 2nd Fri. Gen. Mtg.; 4th Fri. Digital workshop
ORANGEBURG - Orangeburg ARC. 3rd Thur. 1930 at Elks Club, Hwy 301 N & 601 N
ROCK HILL - York Cty. ARS. 2nd & 4th Thur. 1930 at Club Room, Beatty Mall, Rock Hill
SUMTER - Sumter Repeater Assn. 3rd Mon. 2000 at County Office Building Conference Room
WALTERBORO - Coastal ARA. 2nd Sat. 1900. Meeting announced on 31/91 net.

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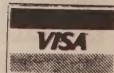
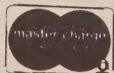
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VIRGINIA CLUB MEETING CALENDAR

Information Supplied by clubs

BLUEFIELD - East River RC. 1st & 3rd Mon. 2030 at Commercial Bank, Bluefield
CHARLOTTESVILLE - Albemarle ARC. 2nd Wed. 1930 at City Courthouse on 4th Street, NE
CHARLOTTESVILLE - University of Virginia ARC. every other Mon. Rm. C119, Thornton Hall
COVINGTON - VHF Communications Assn. 2nd Wed. 1930 at different Members homes
DANVILLE - Danville ARS. 1st & 3rd Fri. 1930 at American Red Cross Bldg., Main St.
FARMVILLE - Southwide ARS. 1st Thur. 1930 at Hampton-Sydney College, Farmville
GALAX - Briarpatch ARC. 4th Fri. 1900 at Galax Recreation Center
HAMPTON - Southern Peninsula AR Klub (SPARK). 1st & 3rd Wed. 1930 at VEPCO Building
LYNCHBURG - ARC. 2nd Fri. 2000 at Virginia Baptist Hospital Auditorium
MARTINSVILLE - Patrick Henry ARA. 3rd Tue. 1930 at Henry Cty. Admin. Bldg.
NEWPORT NEWS - SPARK. 1st & 3rd Wed. 1930 at VEPCO Building in Hampton
NORFOLK - Hampton Roads Radio Assn. 1st Wed. 1930 at Red Cross Headquarters, Norfolk
NORFOLK - Tidewater ARC. 2nd & 4th Sat. 1000 at Fort Norfolk, Hampton Blvd.
PORTSMOUTH - Portsmouth ARC. 2nd & 4th Thur. 432 Broad Street, Portsmouth
RAPPAHANOCK - ARA. 2nd Tue. Meeting places will be announced monthly.
RICHMOND - Virginia ARA. Last Fri. 2000 at Hermitage Auditorium, Westwood & Hermitage
RICHMOND -(RATS) 1st & 3rd Fri. 1930 at the Stone House in Forest Hill Park
RICHMOND - ARC. 2nd Fri. 2000 at the Stone House in Forest Hill Park
ROANOKE - Roanoke Valley ARC. 2nd & 4th Fri. 2000 at Colonial Ave., Presbyterian Church
VIRGINIA BEACH - ARC. 1st Thur. 1900 at Virginia Beach Recreation Center
WINCHESTER - Shenandoah Valley ARC. 1st & 3rd Fri. 2000 at Club Building on Grace St.

TENNESSEE CLUB MEETING CALENDAR

Information Supplied by clubs

CHATTANOOGA - Tri-State FM Assn. Last Fri. 1930 EST at American Red Cross Bldg.
CROSSVILLE - Plateau ARC. 2nd Sat. 1900 (CST) Announced place on 93-33 Rpt.
HUMBOLT - Humbolt ARC. 1st Mon. 1900 CST at Humbolt Public Library
JACKSON - Jackson ARC. 3rd Thur. 1900 CST at Jackson Public Library
KNOXVILLE - Fountain City ARC. 1st Mon. 1800 at Chubbies Restaurant, Broadway Shop. Cen.
KNOXVILLE - Knoxville ARC. 3rd Fri. 1930 at Knoxville Fire Dept. Training Center
LAFOLLETTE - Walnut Mt. ARC. 3rd Mon. 1900 at Lafollette Recreation Center
MARRYVILLE - Smokey Mt. ARC. 4th Mon. 1930 - Hall Road
MEMPHIS - Memphis DX Soc. 3rd Tue. 1930 CST at Robillo's Restaurant
MEMPHIS - Midsouth ARA. 1st Tue. 1900 CST at Pink Palace Museum
MEMPHIS - Delta ARC. 2nd Tue. 1900 CST at White Haven Library
MEMPHIS - Raleigh Bartlett ARC. Last Thur. 1900 CST at Woody's Restaurant, Bartlett
NASHVILLE - Radio Amateur Tele. Soc. (RATS). 2nd Mon. 1930 CST at Metro CD Off. (Courthouse)
NASHVILLE - Nashville ARC. 3rd Thur. 1930 CST at Lock Two Park
NASHVILLE - Tenn. Civil Defense ARC. 1st Thur. 1930 CST at National Guard Armory
OAK RIDGE - Oak Ridge ARC. 2nd & 4th Mon. 1930 at Oak Ridge Civic Center
ROAN COUNTY - Roan Cty. ARES Club. 2nd Tue. 1930 at Old Pond Grade School, Rockwood
SEVIERVILLE - Sevier County ARC. 3rd Thur. 1930 at Presbyterian Church

NORTH CAROLINA CLUB MEETING CALENDAR

Information Supplied by Clubs

ASHEVILLE - W. Caro. ARS. Bus. 1st Thur., 1930; 2nd Mon. 1930, Various Locations
BENSON - Johnson ARS. 3rd Thur., 1930 at 50-210 Fire Station
BURLINGTON - Alamance ARC. 2nd & 4th Monday 1930, at 230 E. Summit Ave.
BURLINGTON - Alamance Repeater Assoc. Inc. Last Sat. 1900 at B&J Cafeteria
CARY - Cary ARC. 4th Thur. 1930 at White Plains Methodist Church, Activity Bldg.
CHARLOTTE - Mechenburg ARS. Last Tue. 1930 at Red Cross Bldg. on Park Rd.
CHARLOTTE - Charlotte ARC. 4th Thur. 1900 - Club Building - WSOC-TV Tryon Street
CHARLOTTE - Friday Lunch Group. Fri. 1200 at Mediterranean Rest. on Independence Blvd.
CONCORD - Cabarrus ARS. 3rd Mon. 1930 at Kimball Lutheran Church, Aux. Bldg., Kannapolis
DURHAM - Durham FM Assoc. 2nd Tue. 1800 at Picadilly Cafeteria, So. Sq. S. S.
DURHAM - Triangle Radio Alert Network. 3rd Thur. 1800 at Picadilly Cafeteria, So. Sq. S. S.
REIDSVILLE - Rockingham City ARC. 1st Mon. & 3rd Thur. 1900 at Municipal Bldg.
FAYETTEVILLE - Cape Fear ARS. 3rd Mon. 1900 at Methodist College
FRANKLIN - Franklin ARC. 2nd Thur. 1900 at Macon Savings & Loan Assn.
GASTONIA - Gaston City ARS. 1st Mon. 1900 at Community Room at Eastridge Mall
GREENVILLE - Brightleaf ARC. 2nd Tue. 2000 at Planters Nat. Bank, downtown.
GREENSBORO - Greensboro ARA. 4th Mon. 1830 at Founders Hall, Guilford College
GREENSBORO - Guilford Am. Soc. (GAS). 2nd Mon. 1830 at diff. restaurants announ. on Repeater
HIGH POINT - High Point ARC. 1st Mon. Western Sizzler on Main.
JACKSONVILLE - Onslow ARC. 2nd Tue. 1915 at Carolina Barbecue.
KANNAPOLIS - Cabarrus County ARS. 3rd Mon. 1930 at Kimball Memorial Lutheran Church, Activity Bldg.
LAURINBURG - Scotland County ARS. 1st Wed. at Cablevision Office
LEXINGTON - Healing Springs Mt. VHF Soc. Last Mon. 1930 at Burlington House Furn. Co., Pers. Off.
LUMBERTON - Lumberton ARC. 3rd Thur. 1930 at Robeson County Public Library
MORGANTON - Morganton ARC. 1st Mon. 1930 at W. Piedmont Community College
NEW BERN - New Bern ARC. 3rd Thur. 1930 at Country Kitchen
N. WILKESBORO - Foothills ARC. 1st Tue. 1930 at Fairplains School N. Wilkesboro
RALEIGH - Raleigh ARS. 1st Wed. 1930 at West Community Room, Crabtree Valley Mall
ROCKINGHAM - Rockingham ARC. 1st Thur. at East Rock Fire Dept.
ROCKY MOUNT - Rocky Mount ARS. 3rd Thur. at Golden Corral in Rocky Mount
SALISBURY - Rowan ARS. 2nd & 4th Mon. 2000 at Salisbury City Hall, Main Street
SHELBY - Shelby Radio Club. 2nd Mon. 1830 at Hungry Bull Restaurant, Dutch Supper
SILVA - Smokey Mt. ARC. 2nd Tue. 1900 at Southwest Tech. Institute
STATESVILLE - Iredell County ARS. 2nd Thur. 1900 at Agriculture Bldg., Water & Tradd Sts.
WILMINGTON - VHF Society. 2nd Tue., Odd Months, 1930 at Cameron Ed. Bldg., New Hanover Mem. Hosp.
WINSTON SALEM - Forsyth ARC. 2nd Mon. 1930 at Red Cross Building

WEST VIRGINIA CLUB MEETING CALENDAR

Information Supplied by Clubs

OAK HILL - Plateau ARA. 1st Tue. Bd. of Education, Fayetteville, W. Va.
BLUEFIELD - East River RC. 1st & 3rd Mon. 2030 at Commercial Bank, Bluefield
BECKLEY - Black Diamond ARC. 3rd Thur. in Beckley
PRATT - The KFC (Kanawha-Fayette-Clay) ARA. 1st Thur. 1930 at Old Town Hall, Pratt



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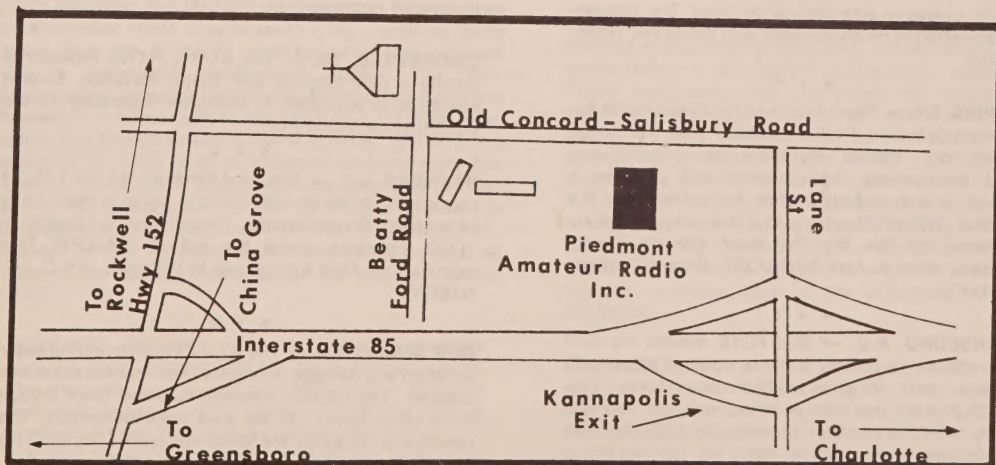
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CVRA DISTRICT RAMBLINGS

Compiled by Journal Staff

ROANOKE, VA. — The 34-94 repeater in Roanoke is temporarily off the air according to N4AP, trustee. The machine was located at Western Virginia Community College, but became a victim of budget cuts in the state's aid to schools. N4AP says he expects to get it back on the air in the future, as soon as he finds a suitable new site. (Mike KC4AO)

• • •

DILLON, S.C. — The most talked about repeater in South Carolina now is the new Dillon machine located on the 1500 foot level with antenna at 1600 feet on the Channel 15 TV tower. The 145-745 machine is workable by mobiles and handhelds from the Myrtle Beach area. Dan NN4N, reports they are going to make additional changes to the machine in the antenna system to improve coverage on the backside. Presently mobile coverage extends 75 to 80 miles out. Stations from Raleigh, N.C., Fayetteville and Greensboro are able to work the machine. Mobiles in Columbia, S.C. are heard working mobiles at Myrtle Beach. (Dan, NN4N)

• • •

KNOXVILLE, TN. — Dwight N4CKB and Bill WA4KAV have coordinated 144.55-145.15 for a new repeater in South Knoxville. This machine will have autopatch at a later date. (Sam, WB4HAP)

• • •

ROANOKE, POOR MT. VA. — A wide coverage repeater is in the planning stages for Western Virginia. The machine will be located on Poor Mountain, the highest peak in the area used by several TV radio stations. Word has it that the machine will be designed for emergency communications use, but will be an open repeater unless an emergency is declared. The frequency is expected to be coordinated with the SERA. (Mike, KC4AO)

• • •

MEMPHIS, TN. — The 144.73-145.33 repeater is being converted to a Packet repeater and will be on 145.33 only. "Packet" repeaters are computer controlled transceivers that receive and process a "Packet" of data and retransmits the desired data at a later time. WB4MQD reports that this repeater will be operational by this fall. For more info on Packet repeaters, refer to April 1981 QST, Page 27. (Sam, WB4HAP)

• • •

GREENSBORO, N.C. — Bob KZ40 reports his 220 mhz. repeater is getting a good workout with North Carolina and Virginia RTTY operators. The 223.22-224.82 machine is linked with the Johnson Mt., Va. WB4JB repeater operating on 705-105. The third repeater in the link is Afton Mt. up in Central Virginia, the W4NPT 675-075 machine provides extra long coverage when linked to the two other repeaters.

Bob said he and the other groups were working to improve the linking system. (Wayne, K4MOB)

• • •

KNOXVILLE, TN. — The WB4GBI repeater is nearly on the air. Duplexer is in, and by the time this gets to print the 144.87-145.47 machine will be in service from View Park Hill, Just South of the Tennessee River. (Tim, WB4GBI)

• • •

COLUMBIA, GASTON, S.C. — Both the Columbia 96-36 repeater and the Gaston 61-21 sub-band repeaters were hit by lightning in mid-June. Both are back on the air now after minor repairs being made. (Al, N4EOY)

• • •

LYNCHBURG, VA. — The 449-44.50 repeater in Lynchburg has been moved to Tobacco Row Mountain, increasing its coverage. The repeater, formally, WB4IUS now carries the call K4HEX. (Mike, KC4AO)

• • •

MARYVILLE, TN. — George K4HXD has coordinated a 10-meter repeater on 29.52-29.62. The machine will be split site on Chilhowee Mt. about 17 miles South of Knoxville. This is the first 10-meter repeater in Tennessee. (George, K4HXD)

• • •

COLUMBIA, S.C. — Hams in Columbia are battling local cable TV company with signal on 145.25 mhz. Signal leakage from cable causes full quieting signals to be received in some areas of town. Suggest amateurs in all cities served by Cable TV to be on lookout for this and report to your local FCC office, ARRL, and the offending cable company. (Al, N4EOY)

• • •

COOKEVILLE, TN. — The 81-21, N4WS repeater is getting a new location with better elevation. Overall coverage is expected to increase, especially to the east. (Danny, WA4PPL)

• • •

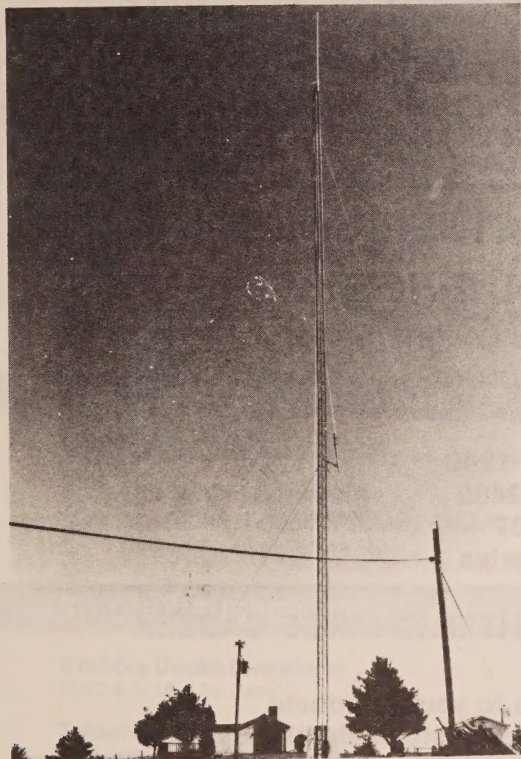
BAMBERG, S.C. — The new Bamberg 44.73-145.33 repeater is on the air with a strong signal in many parts of Southern South Carolina. The machine is a Spectrum 1000, operating under the call of WA4DFP. This machine has filled a large gap in that area of S.C. (Al, N4EOY)

• • •

GUM SPRING, VA. — The 87-27 Gum Spring repeater escaped any damage during a violent thunderstorm this summer. The KB4GX machine survived even though three other towers in the area were destroyed. The repeater on a nearby fire tower survived. (Jim, K4OJE)

Continued On Next Page

CVRA DISTRICT RAMBLINGS



PERCHED ATOP beautiful Briarpatch Mountain, the 69-09 machine has served southwestern Virginia and Northwestern North Carolina with a big signal for many years. Now the WR4AHR repeater has been replaced with a completely solid-state system. The VHF Engineering repeater and Phelps-Dodge Duplexers are housed in a steel vault at the base of a 110-foot Rohn tower. The Station Master is fed with heliax and an input power of 45 watts is at an elevation of 3,560 feet. The repeater coverage is expected to be greatly expanded due to the replacement of the GE Prog Line and the upgrading of the antenna system. The Briarpatch ARC, sponsor of the repeater, would like to encourage all hams in the coverage area to use the machine. (Dave, NA4L)

• • •

HIGHLAND SPRINGS, VA. — A local coverage repeater is being constructed in this Richmond suburb. The machine, a 100-watt transmitter and a Motorola solid-state receiver will be located at Highland Springs Vo-Tech Center. The antenna will be near the top of a 100-foot tower. The repeater, KC4AO has been coordinated for 145-745. (Mike, KC4AO)

SOUTH CAROLINA — Gary Barnette, WA4MDP has consented to take on the position of Vice-Director of SERA for South Carolina. Gary will be working closely with Al Harney, N4EOY, Director. Harney was elevated to Director after Rich, WA4SSJ had to resign the position recently because of pressing business commitments. (Al, N4EOY)

• • •

KNOXVILLE, TN. — The K4HDX autopatch repeater has had some notable changes lately. Users got together and added 20 more feet of Rohn 25G tower bringing the total to 120 feet. Operational changes to the autopatch include an intermittent beep on carrier starting 30 seconds before time out, a disconnect acknowledgement beep and the patch will close down if there is no received signal at least every 30 seconds. The 675-075 machine is located on Beaver Ridge at the home of "Doc" Gilmore, WA4MCX (Sam, WB4HAP)

• • •

LYNCHBURG, VA. — A 34-94 repeater for Lynchburg has surfaced again. The machine, long in that city on that frequency had not been on the air lately. The repeater, WA4RTS has been moved onto Tobacco Row Mountain. The Virginia Director has been unable to obtain further information as to whether the machine will remain on this frequency which is quite cluttered all over. (Mike, KC4AO)

• • •

CHARLOTTE, N.C. — The 223-08-224.68 repeater is now being assembled. Hopefully it will be in service late this month, at least on a limited basis. This will be the first on-the-air 220 mhz repeater for Charlotte. The machine will probably be linked with the 84-24 Charlotte machine with autopatch and emergency power. (Lee, WB4KPF)

• • •

KNOXVILLE, TN. — The WA4TEM autopatch repeater has had many improvements lately. Robin Rumbolt the owner/builder is an engineer at Magnavox, working in Digital electronics. This has helped him design and build his own autopatch and other bells and whistles. Besides a new machine built from Motorola Micor boards, the group has topped off the 100-foot Rohn tower with a new DB-224 antenna and half-inch Heliax. The machine resides in a concrete block building on Sharp's Ridge and offers dependable coverage of Knox and surrounding counties. This sub band repeater has an interesting history. We will run a full story with pictures in a future issue of the JOURNAL. (Robin, WA4TEM)

• • •

RICHMOND, VA. — The Richmond ARC 34-94 repeater has completed installation of a new tape deck system. It is available to all with a complete ID for the automatic logger and using 113, 114, or 115 on the touchtone pad. Information on repeaters, club meetings and general amateur activities is provided. (Jim, K4OJE)

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DON'T BE BASHFUL EDITORIAL

Continued From Page 1

In the November issue of the JOURNAL, we will show you all the nominees and give you a brief biographical sketch of each. Then sometime in December, the actual election if necessary, will be held.

Keep in mind, unless you represent a FULL MEMBER repeater, you cannot nominate, and if necessary for a ballot, you cannot vote.

What do you look for in a President of SERA? The President is a person who not only presides at the meetings, but he watches over and makes certain the Directors are doing their job. He appoints chairmen of certain committees such as Associate Membership, Full Membership, Publications, Technical and FCC. His job is that of a diplomat who must handle problems which might arise within the organization.

A Vice President of SERA must work closely with Directors. He is responsible for working with them to contact potential Full Members and help Directors identify just who does not join and make efforts to sign up every repeater group possible. The Vice-President also takes over in the absence of the President.

The Secretary's job aside from keeping an accurate record of meetings is to mail ballots if needed for elections, provide the President and Directors a status of achievements within the organization.

The Treasurer is the money keeper for SERA. He is responsible for keeping an accurate set of books and providing quarterly balance sheets to the publications committee. He also keeps the Publication committee informed as to the status of funds so the committee can plan promotions within the organization. The Treasurer pays all the SERA bills, reimburses Directors and officers for expenses such as phone bills and postage.

If you have a person in mind who would do a good job in one of the categories above, why not nominate him. SERA needs good people who will take an active role in the organization. We hope you will help us find some more good ones who can continue the leadership we need to continue our growth.

This organization, founded in 1971 by some very smart individuals who had the ability to see the future, deserves to continue being strong. We cannot let them down, and we cannot let you down.

—Wayne C. Williams, Editor

SHORT STUFF!

K4### this is W4@@@, 73rds Old Man, have yourself a good day, a good evening tonight, and a good day tomorrow, and if I don't see you next week have a good week ahead . . . we're destined. . . kerchunk. "10-4 Good Buddy!" . . . kerchunk

QSO PARTY CRUSHED EDITORIAL

Continued From Page 1

so prohibitive. On 2-meters the restriction isn't bad, but on 220 mhz. you might as well shut down before you start. You see there is naturally a limited number of people on 220 mhz, with a limited number of repeaters in this part of the country. And since there is a limited number of people on the band, 220 operators settle for 223.50 simplex as their ONLY simplex frequency in most all cases. (Every 220 mhz crystal-type radio comes with 223.50 installed) So 223.50 FM is limited to just 4 hours during the ARRL sponsored contests, where else do you go when your four hours are used. You can go to another band, or you can go home.

I opted to stay home, since I couldn't justify a 6 hour drive up the mountain and back for only 4 hours operation. Listening over the weekend I heard only the group I was to operate with, and ONE other on 220 mhz contestor during the weekend. Apparently most clubs who operated didn't feel it was worth setting up 220 mhz just for 4 hours operation.

I'm not going to get mad at the ARRL for this blunder, I promise not to even write the Contest Committee a nasty letter. I won't even take the time to tell them of my strong support for 220 mhz over the past 6 years, pushing clubs to use 220 on contests, even loaning out radios and antennas in the early days so they would get on. ARRL will never get a word from me about how they ruined 220 mhz for the VHF QSO party.

I guess these rules are necessary. Apparently someone wrote a nasty note complaining of massive interference on the National Calling Frequency during the contest from California, and the ARRL, out to protect us all, took it upon themselves to cancel out use of the frequency except on a limited basis throughout the rest of the country.

Finally, I'm not even going to my Division Director and complain about what has been done to 220 mhz in the contests. I think I'll just stay home and pout!! My first name prevents me from speaking too strongly against ARRL!

—Wayne C. Williams

TECHNICAL TIP

It was brought to our attention by W4PJO that some 2 or 1 1/4 meter transceivers have an inductor in series with the positive power lead for noise suppression that can cause a large enough spike back into your 12 volt power supply lead during transmit/receive switching to falsely trigger some overvoltage crowbar circuits in power supplies. You might check for this if you are having problems with your power supply shutting down. The Fix? Put a reverse biased diode across the coil just as is done to protect transistors that switch relays. Thanks Brack.

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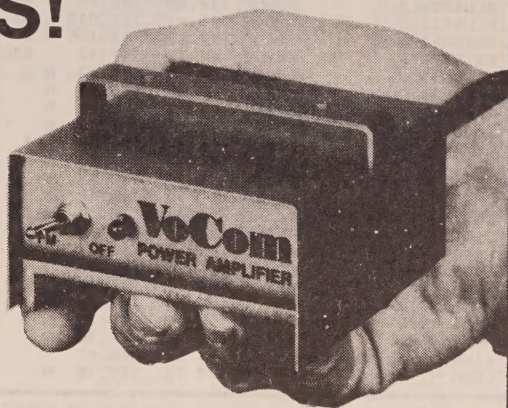
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WEST VIRGINIA REPEATERS

TWO METERS

ALDERSON	WR8AKZ	146.13	146.73	N
BECKLEY	N8BZS	144.77	145.37	N
BECKLEY	K8BO	146.34	146.94	O
BKLY/FLAT TOP MT	K8BO	146.25	146.85	A
BLUEFIELD	W8MOP	144.89	145.49	A
BLUEFIELD	WD8OGY	146.415	147.015	PA
BRIDGEPORT	WR8ALC	147.705	147.105	EA
BRIDGEPORT	K8VNO	147.72	147.12	EAL
BUCKHANNON	WD8LWI	145.93	147.93	N
BUCKHANNON	K8WYH	146.25	146.85	N
CHARLESTON	WR8AER	146.22	146.82	N
CHARLESTON	WB8CQV	146.28	146.88	N
CLARKSBURG	WB8ZVS	146.22	146.82	A
COAL MTN	WB8KAD	146.12	146.72	N
COTTAGEVILLE	WR8AKV	146.31	146.91	N
DUNBAR	K8VKI	147.72	147.12	N
EAST RIVER MTN*	WR4AXS	146.16	146.76	N
ELKINS	WR8AOH	146.04	146.64	N
FAIRMONT	W8JM	146.31	146.91	N
FRANKLIN	W3RUA	147.945	147.345	N
GRAFTON	K8VNO	147.975	147.375	L
HUNTINGTON	WB8EZR	146.04	146.64	N
HUNTINGTON	WR8AGH	146.16	146.76	N
HUNTINGTON	KA8BKX	147.90	147.30	N
KINGSTON/LICK KB	W8FG	144.87	145.47	N
LEON	WB8NMT	147.78	147.18	N

LOGAN	WR8ADD	146.37	146.97	N
MARTINSBURG	WB8VUZ	147.855	147.255	N
MCMECHEN	WABUL	146.31	146.91	N
MCMECHEN	N8CFX	147.75	147.15	N
MORGANTOWN	K8LG	144.83	145.43	N
MORGANTOWN	WB8YZT	146.085	147.955	N
MORGANTOWN	WBCUL	146.16	146.76	N
MULLENS	WR8AKX	147.63	147.03	N
NEW MARTINSVILLE	WR8ABY	146.34	146.94	N
OAK HILL	KA8EMX	146.19	146.79	A
PARKERSBURG	WB8ACJ	146.37	146.97	PA
PARKERSBURG	WR8ACJ	147.96	147.36	N
PARSONS	K8VNO	144.73	145.33	L
PARSONS	K8VNO	145.93	145.33	N
PENNSBORO	W8CND	147.90	147.30	N
PRINCETON	WB8NRK	146.46	147.06	A
RAVENSWOOD	WABUSO	146.07	146.67	N
RICHWOOD	K8VKB	146.34	146.94	N
SCOTT DEPOT	K8SLI	147.87	147.27	N
SPENCER	WB2HVN	146.01	146.61	N
ST ALBANS	WB8GDY	146.40	147.00	N
TERRA ALTA	WB8PHU	147.60	147.00	N
WEIRTON	WR8AQA	146.34	146.94	N
WELCH	WB8SXZ	144.85	145.45	N
WHEELING	W8YFX	144.59	145.19	N
WHEELING	W8JDH	146.16	146.76	N

220 MHZ

HUNTINGTON	KA8BKX	222.54	224.14	N
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DISTRIBUTION OF REPEATERS BY FREQUENCY

The By City Index Appears
On Following Pages

TWO METERS

4.51 / 5.11	HIGH POINT	NC	4.81 / 5.41	LEXINGTON	NC	6.12 / 6.72	COAL MTN	WV
	NORTHWEST SECT.	NC		GREENVILLE	TN	6.13 / 6.73	RALEIGH	NC
4.53 / 5.13	KNOXVILLE	TN	4.83 / 5.43	NEWTON	NC		SALISBURY	NC
	HODGES	SC		NASHVILLE	TN		WILMINGTON	NC
4.55 / 5.15	GALAX	VA		GALAX	VA		C. PIED/SMPNSVLE	SC
4.57 / 5.17	CHERRYVILLE	NC	4.85 / 5.45	MORGANTOWN	WV		N. AUGUSTA	SC
	KNOXVILLE	TN		ANDERSON MTN	NC		KNOXVILLE	TN
4.59 / 5.19	BUTNER	NC	4.87 / 5.47	LINCOLN	NC		LEBANON	TN
	MORGANTOWN	NC		NEWPORT	NC	6.055/6.655	MEMPHIS	TN
4.61 / 5.21	MURFREESBORO	TN		BENTON	TN	6.06 / 6.66	HAMPTON	VA
	WHEELING	WV	4.89 / 5.49	WELCH	WV	6.07 / 6.67	ALDERSON	WV
	GASTON	TN		LILLINGTON	NC	6.145/6.745	DILLON/PEE DEE	SC
4.63 / 5.23	KNOXVILLE	TN		KNOXVILLE	NC		LYNCHBURG	TN
4.65 / 5.25	LEBANON	VA		MOUNTAIN CITY	TN	6.16 / 6.76	HIGHLAND SPNGS	VA
	CHARLOTTE	NC		KINGSTON/LICK KB	WV		ASHVL/MT PISGAH	NC
	GREENSBORO	NC	5.33 / 5.93	RALEIGH (CITY)	NC		GREENSBORO	NC
	FISHERVILLE	TN	5.93 / 5.33	SHORT MT	TN		GRIFTON	NC
4.67 / 5.27	MANASSAS	VA	6.01 / 6.61	BLUEFIELD	VA		CHARLESTON	SC
4.69 / 5.29	TRINITY	NC		BLUEFIELD	WV		COLUMBIA	SC
4.70 / 5.30	BRYSAN CITY	NC		MEMPHIS	WV		BRISTOL/HLSTN MT	TN
4.71 / 5.31	ROCK HILL	SC		GRNVLE/CSRS HD	WV		NASHVILLE	TN
4.73 / 5.33	LEXNGTN/COLE MT	VA		MYRTLE BEACH	SC		CHARLOTTEVILLE	VA
	FISHER PEAK	NC		CHATTANOOGA	TN	6.085/6.685	FOREST	VA
	BAMBERG	SC		NASHVILLE	TN		EAST RIVER MTN*	WV
4.75 / 5.35	PARSONS	WV		BRUMLEY MT	VA	6.095/7.955	HUNTINGTON	WV
	CHARLOTTE	VA		LYNCHBURG	NC	6.10 / 6.70	MORGANTOWN	WV
	BLAND	VA		VIRGINIA BEACH	VA		WHEELING	WV
	FALLS CHURCH	VA		SPENCER	WV	6.175/6.775	ELIZABETHTOWN	NC
4.77 / 5.37	FRONT RIVER	VA	6.025/6.625	HENDERSONVILLE	NC		SAND MTN	VA
	N. WILKESBORO	WV		LAURINBURG	NC	6.19 / 6.79	WYTHEVILLE	VA
4.79 / 5.39	BECKLEY	WV	6.04 / 6.64	NEW MARKET	NC		LEVEL CROSS/GBO	VA
	SAURATOWN MT	WV		HENDERSONVILLE	NC	6.115/6.715	ANDSV/SASFRS MT	SC
	SIMPSONVILLE	NC		RALEIGH	NC		CHARLESTON	SC
	CHATTANOOGA	TN		WINSTON-SALEM	NC		CHATTANOOGA	TN
							JOHNSON CTY	TN
							MEMPHIS	TN
							NASHVILLE	TN
							CHESAPEAKE	VA
							FAIRFAX	VA
							OAK HILL	WV
							GASTONIA	NC

NORTH CAROLINA REPEATERS

TWO METERS

AHOSKIE	WR4AFB	146.31	146.91	N	PA
AHOSKIE	WB4YNF	146.49	147.49		AT
ALBEMARLE	WR4BBX	146.385	146.985		
ANDERSON MTN	WD4LCF	144.85	145.45		
ASHEBORO	WD4AIB	147.855	147.255	PA	
ASHEVILLE	WA4QCO	146.235	146.835	A	
ASHEVILLE	WA4KNI	146.31	146.91	A	
ASHVL/MT PISGAH	WA4BVL	146.16	146.76		
BENSON	WR4ARL	147.87	147.27	N	PA
BOONE	WB4DYD	147.96	147.36		
BREVARD/RICH MT	WD4IHH	147.735	147.135		
BRYSON CITY	K4BBF	144.70	145.30	N	P
BURGAW	K4LZY	146.34	146.94		
BURLINGTON	WR4AKY	146.07	146.67	N	
BURLINGTON	W4VGZ	146.475	147.075	EA	
BURLINGTON	WA4HBQ	147.675	147.075	EA	
BURNSVILLE	WA4LLR	147.975	147.375		
BUTNER	WA4ITZ	144.57	145.17	N	P
CHARLOTTE	WR4AEU	144.63	145.23		
CHARLOTTE	WB4HTR	144.75	145.35	N	
CHARLOTTE	WR4AEU	146.34	146.94	N	A
CHARLOTTE	WR4ALO	146.46	147.06	N	A
CHARLOTTE	WB4KPF	147.84	147.24	A	
CHARLOTTE	WB4KOH	147.99	147.39	PA	
CHERRYVILLE	WB4GRY	144.55	145.15		
CONCORD/KANNAP.	K4CEB	146.055	146.655	A	
DUNN	WB4FXM	146.10	146.70	N	
DURHAM	WA4WTX	146.22	146.82		
DURHAM	WA4BFT	146.34	146.94	N	A
EDEN	WA4ACP	147.84	147.24	N	
EDEN/STONEVILLE	WA4QBG	147.99	147.39		
ELIZABETH CITY	WA4VTX	146.46	147.06	N	A
ELIZABETH TOWN	WD4DCD	146.175	146.775	N	P
ERWIN	WR4AAL	146.43	147.03	N	
FAYETTEVILLE	WR4ANN	146.31	146.91	A	
FAYETTEVILLE	W4LPL	147.93	147.33		
FISHER PEAK	WD4MDP	144.73	145.33		
FOREST CITY	W4TMT	146.07	146.67	N	A
FOREST CITY	WA4BKU	147.84	147.24	N	
FRANKLIN	WB4YAO	147.84	147.24		
FRANKLIN	N4AC	147.96	147.36		
GAST/SPCR MT	W4REW	147.72	147.12	A	
GASTONIA	K4ZFD	146.205	146.805	N	L
GASTONIA	WD4KGM	147.87	147.27	N	
GASTONIA	WR4	147.90	147.30	N	P
GOLDSBORO	K4CYP	146.25	146.85	A	
GREENSBORO	N4AZM	144.65	145.25	N	C
GREENSBORO	K4SNI	146.01	146.61	A	
GREENSBORO	WR4AOD	146.16	146.76		
GREENSBORO	WD4IPZ	147.63	147.03	A	
GREENSBORO	WR4ANL	147.81	147.21	N	
GREENVILLE	WD4JPQ	147.81	147.21	N	P
GREENVILLE	W4AMC	147.96	147.36		
GREENVL/ESTN NC	W4GDF	147.69	147.09		
GRIFTON	W4NBR	146.085	146.685		
GRIFTON	WR4ABP	146.16	146.76	O	
HENDERSONVILLE	WB4YAO	146.025	146.625	P	
HENDERSONVILLE	WB4YAO	146.04	146.64	L	
HICKORY/BRT. MT	WR4ACM	146.25	146.85	N	
HIGH POINT	N4XO	144.51	145.11	N	P
HIGH POINT	KA4DHP	146.265	146.865	PA	
HIGH POINT	K4AZA	146.40	147.00	LPA	
HIGH POINT	K4AZA	147.60	147.00	LPA	
HILLSBOROUGH	WA4WTX	147.825	147.225	A	
HOPE MILLS	WB4TRW	146.445	147.045		
JACKSONVILLE	WD4FVO	146.40	147.00	PA	
JACKSONVILLE	WR4ATW	147.90	147.30	N	
KINGS MTN	WB4GXY	146.37	146.97		
LAKE TOXAWAY	WR4AGH	147.795	147.195		

LAURINBURG	WR4AOX	146.025	146.625	N	
LENOIR	WR4ARG	147.93	147.33		
LEVEL CROSS/GBQ	K4VUV	146.19	146.79		
LEXINGTON	WD4NTE	144.81	145.41	N	P
LEXINGTON	K4IZM	146.31	146.91	PA	
LILLINGTON	WA4FKI	144.87	145.47	N	
LINCOLNTON	WD4PLY	144.85	145.45	N	
LUMBERTON	WR4BDQ	147.96	147.36	A	
MACO	WA4LED	147.66	147.06		
MANTED	W4PCN	146.34	146.94	PA	
MONROE	K4BGU	147.30	147.90	N	
MONROE	WR4BBN	147.705	147.105	A	
MORGANTON	WB4PBL	144.57	145.17	N	LP
MORGANTON	K4RP	147.75	147.15		
MT AIRY	WB4UJH	146.37	146.97	EA	
MT AIRY	WA4CQK	147.78	147.18	N	
MT PISGAH	WA4COS	144.65	145.25	N	P
N. WILKESBORO	K4ITL	144.77	145.37		
NEW BERN	WD4JMS	146.01	146.61	PA	
NEWPORT	K4GRW	144.85	145.45	A	
NEWTON	N4AWV	144.83	145.43	N	P
PINE BLUFF	WR4BAR	147.84	147.24	N	
RALEIGH (CITY)	N4BEA	144.89	145.49	A	
RALEIGH	WR4ACF	146.04	146.64		
RALEIGH	K4BWC	146.13	146.73	A	
RALEIGH	K4ITL	146.28	146.88		
RALEIGH	K4ITL	147.75	147.15	PA	
REIDSVILLE	K4YFT	146.25	146.85		
ROANOKE RAPIDS	K4PUV	147.63	147.03		
ROARING GAP	WB4PZA	146.22	146.82		
ROBBINSVILLE	WD4QOB	146.445	147.045	L	
ROCKINGHAM	WA4ULA	146.355	146.955		
ROCKY MOUNT	WD4HIG	147.72	147.12	A	
SALISBURY	W4EXU	146.13	146.73		
SANFORD	WB4EJJ	147.78	147.18	N	A
SAURATOWN MT	WB4SNA	144.79	145.39	N	CL
SHELBY	KB4AF	146.28	146.88		
SHELBY	KB4AF	147.945	147.345	A	
SIMPSONVILLE	WA4PPV	144.79	145.39	N	P
SMITHFIELD	WR4BBO	146.37	146.97	A	
SPRING LAKE	WR4BCA	146.115	146.715	N	
STATESVILLE	A140	146.085	146.685	PA	
SYLVA	KA4V	147.90	147.30	N	
TRINITY	WD4KUN	144.69	145.29	N	P
TUCKASEGEE	WB4OMV	147.90	147.30	N	
UNION CROSS	WA4RBW	147.915	147.315		
WADESBORO	W4USH	146.235	146.835	N	
WASHINGTON	WB4GMI	146.205	146.805	N	
WAYNESVILLE	N4SM	147.87	147.27	N	PA
WILLIAMSTON	WA4TKJ	144.81	145.41	N	
WILMINGTON	WR4AVF	146.13	146.73		
WILMINGTON	WR4AHL	146.22	146.82		
WINSTON-SALEM	WA4GIC	146.04	146.64	A	

220 MHZ

ASHEVILLE	NC4N	223.00	224.60	N	C
ASHVL/MT PISGAH	WR4AEV	222.34	223.94		
CHARLOTTE	WR4AEU	222.36	223.96	P	
CHERRYVILLE	WB4UDS	223.20	224.80	N	
FAYETTEVILLE	W4EHF	222.42	224.02		

CVRA REPEATER SYMBOLS

Unmarked in First Code column-Full CVRA Members	RB	Remote Base System
N	NON Member CVRA	Tone Access Repeater
D	Delinquent Member	Linked Repeater
M	T-MARC Repeater	Radioteletype Rptr.
A	Open Autopatch	Television (SS or ATV)
PA	Private Autopatch	Proposed Repeater
EA	Emerg. Autopatch	Under Construction
		Off Air Temporarily

GREENSBORO	KZ40	223.22	224.82	N	RL
HICKORY	WR4ACM	222.42	224.92	N	
HIGH POINT	K4AZA	222.32	223.92	L	PA
HILLSBOROUGH	WA4WTX	222.34	223.94	L	
LOCUST	WR4BBA	222.40	224.00	N	
MORGANTON	WB4PML	223.36	224.96	N	
RALEIGH	WA4PEN	223.04	224.64	N	
SALISBURY	W4EXU	223.16	224.76	N	
SAURATOWN MT	W4RXG	223.28	224.88	N	
STATESVILLE	WA4WRS	222.70	224.30	N	
SYLVA	KA4V	223.34	224.94	N	
TRYON	WB4BYH	222.86	224.46	N	P
WINSTON-SALEM	WB4UGW	222.44	222.04	N	P
WINSTON-SALEM	WA4YHH	223.04	224.64	N	P
WINSTON-SALEM	WA4GIC	223.10	224.70	N	R

440 MHZ

ASHVL/MT PISGAH	WR4ALE	449.90	444.90	N	
CHARLOTTE	WR4AEU	449.60	444.60	N	P
CHARLOTTE	WR4ALO	449.85	444.85	N	
GREENSBORO	WB4HZI	449.90	444.90	N	
HIGH POINT	K4AZA	447.90	442.90	L	
HILLSBOROUGH	WA4WTX	449.10	444.10		
SALISBURY	W4EXU	449.70	444.70	P	
SAURATOWN MT	W4RXG	448.00	443.00	C	

SIX METERS

CARY	WR4AVP	52.35	53.35	N	
HENDERSONVILLE	WB4YAO	52.01	53.01		
HENDERSONVILLE	WB4YAO	52.525	52.525	RB	
HICKORY	WR4ACM	52.47	53.47	N	
HIGH POINT	K4AZA	52.15	53.15	L	
HILLSBOROUGH	WA4WTX	52.525	52.525	RB	
NEWPORT	K4GRW	52.01	53.01	N	P
RALEIGH	WR4AOE	52.05	53.05	N	
RALEIGH	WA4PEN	52.25	53.25	N	C

10 METERS

NEWPORT	K4GRW	29.56	29.66	N	P
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SOUTH CAROLINA REPEATERS

TWO METERS

AIKEN	WR4	147.90	147.30	N	C
ANDERSON	WR4AIO	146.37	146.97	N	PA
ANDSN/SASFRAS MT	WR4AIO	146.19	146.79	N	
BAMBERG	WA4DFP	144.73	145.33	N	
BEAUFORT	WR4	146.01	146.61	N	
BLAIRSVILLE(GA)	WA4EZN	147.69	147.09	LEA	
C. PIED/SPMSNVLE	WD4BJY	146.13	146.73	EA	
CAROWINDS	WR4ABK	147.78	147.18	N	
CHARLESTON	WR4	146.06	146.66	N	A
CHARLESTON	K4ILT	146.16	146.76	N	A
CHARLESTON	WR4AUV	146.19	146.79	N	
CHARLESTON	N4SC	146.34	146.94	N	T
CHARLESTON	WR4BCP	147.87	147.27	A	
CHERAW	WD4HEH	147.735	147.135		
COLUMBIA	N4EOY	146.07	146.67		
COLUMBIA	WR4	146.10	146.70	N	
COLUMBIA	WR4AYE	146.16	146.76		
COLUMBIA	K4AVU	146.28	146.88		
COLUMBIA	N4CZR	146.34	146.94		
COLUMBIA	N4CZR	147.84	147.24		
COLUMBIA	WB4VLY	147.93	147.33		
COLUMBIA	N4CZR	147.96	147.36	A	
DILLON/PEE DEE	NN4N	146.145	146.745		
DORCHESTER	W4NAT	147.78	147.18	N	
FLORENCE	W4ULH	146.25	146.85		
FLORENCE	WA4ISM	146.37	146.97	PA	
GASTON	WB4NEP	144.61	145.21	PA	

GREENVILLE	W4AZT	146.10	146.70	A	
GREENVILLE	WR4	147.675	147.075	N	PA
GREENWOOD	WB4UGA	147.765	147.165	N	PA
GREER	W4IQK	146.34	146.94	N	
GRNVLE/CSRS HD	W4NYK	146.01	146.61	EA	
GRNVLE/PARIS MT	W4NYK	146.22	146.82	PA	
HARTWELL(GA)	KY4T	146.895	146.295		
HODGES	KB4YF	144.53	145.13		
LANCASTER	W4PAX	146.10	146.70		
LANCASTER	WB4BGF	147.84	147.24		
LAURENS	WA4UZA	146.25	146.85	N	A
LEXINGTON	WR4AGK	147.255	146.855	N	
LITTLE MT	K4AVU	147.81	147.21		
LONG MT	WA4JRU	147.87	147.27	N	
LYMAN	KS4I	147.885	147.285		
MARION	W4YLT	146.40	147.00		
MONCK'S CORNER	WA4DDK	147.75	147.15	N	A
MYRTLE BEACH	WA4KGN	146.01	146.61	N	
MYRTLE BEACH	WA4YEE	147.72	147.12	N	
MYRTLE BEACH, N	WA4JYR	147.63	147.03	PA	
N. AUGUSTA	K4FKJ	146.13	146.73		
N. AUGUSTA	WR4ALS	147.72	147.12	N	
NORTHWEST SECT.	W4GZL	144.51	145.11	P	
ORANGEBURG	WR4AQY	147.69	147.09	N	A
PICKENS	WB4YXZ	146.40	147.00		
ROCK HILL	WR4	144.71	145.31	N	
ROCK HILL	WC4ABD	146.43	147.03	PA	
SAVANNAH(GA)	W4HBB	146.28	146.88		
SAVANNAH(GA)	W4HBB	146.37	146.97	A	
SPARTANBURG	K4JLA	147.69	147.09	N	PA
SUMMERVILLE	WR4	146.25	146.85	N	
SUMTER	WR4AOI	146.04	146.64		
SUMTER	WA4UMU	147.615	147.015	PA	
SUMTER/SHAW	W4VFR	147.66	147.06	N	
TOCCOA(GA)	KA4DIP	147.93	147.33		
WEST BROW(GA)	KC4EV	147.81	147.21		
WHITE HALL	WR4AQL	146.31	146.91	N	

220 MHZ

COLUMBIA	N4EOY	222.30	223.90		
PICKENS	WB4QHF	222.54	224.14	C	
SASSAFRAS MTN	KJ4X	222.46	224.06		

440 MHZ

CHARLESTON	N4SC	449.10	444.509	N	T
LITTLE MT	KC4YI	449.10	444.10		
ROCK HILL	KA4RFA	442.25	447.25		
SUMMERVILLE	WR4	449.00	444.00	N	P

TENNESSEE REPEATERS

TWO METERS

ALAMO	WB4EDS	147.135	147.735	N	
ALTAMONT	WR4AWN	146.37	146.97	N	
BENTON	K4SIR	144.85	145.45	N	
BLONTVILLE	WA4KMG	147.60	147.00		
BRISTOL	K4TLW	146.07	146.67	A	
BRISTOL	W4SZP	146.28	146.88	A	
BRISTOL/HLSTN MT	WR4ADO	146.16	146.76	N	EA
BROWNSVILLE	WA4ABU	146.655	146.055	N	
CENTERVILLE	WB4PZB	147.915	147.315	N	
CHATTANOOGA	KB4TZ	144.79	145.39	A	
CHATTANOOGA	K4CMY	146.01	146.61		
CHATTANOOGA	W4DSK	146.19	146.79	A	
CHATTANOOGA	WA4ZOK	147.60	147.00	PA	
CLARKSVILLE	WA4TEQ	147.60	147.00	N	
CLEVELAND	WR4AQV	147.78	147.18	N	
COLUMBIA	WR4AIX	147.72	147.12	N	
COOKEVILLE	WR4ANW	146.07	146.67	N	
COOKEVILLE	N4WS	147.81	147.21		
COVE MTN	WA4KJH	146.25	146.85	A	

TENNESSEE

Continued

COVINGTON	WA4VXW	147.93	147.33	N
CROSSVILLE	WR4AKQ	146.04	146.64	N
CROSSVILLE	WR4BEL	147.93	147.33	N
DAYTON/RHEA CTY	K4ZLA	147.99	147.39	N
DYERSBURG	AA4HF	146.145	146.745	N
FAYETTEVILLE	WR4BAQ	147.63	147.03	N
FISHERVILLE	N4DRL	144.65	145.25	N
GALLATIN	WB4TLQ	147.84	147.24	N
GALLATIN	WA4YQC	147.87	147.27	N
GREENEVILLE	W4ANB	146.10	146.70	
GREENEVILLE	WA4LYF	147.66	147.06	A
GREENEVILLE	WB4TUO	144.81	145.41	N
HENDERSONVILLE	WR4BCX	147.63	147.03	N
HORNBEAK	WA4OXX	146.865	146.265	N
JACKSON	W4WKZ	147.81	147.21	N
JOHNSON CTY	WB4IKB	146.19	146.79	
JOHNSON CTY	WA4DIU	147.87	147.27	A
JONESBORO	WB4SOC	147.99	147.39	PA
KNGSPT/BAYS MT	W4TRC	146.37	146.97	A
KNOXVILLE	WB4JSD	144.51	145.11	R
KNOXVILLE	WA4KAV	144.55	145.15	
KNOXVILLE	K4KFD	144.61	145.21	AC
KNOXVILLE	WB4GBI	144.87	145.47	
KNOXVILLE	WB4IOB	146.13	146.73	
KNOXVILLE	K4HXD	146.34	146.94	
KNOXVILLE	WA4TEM	146.40	147.54	A
KNOXVILLE	K4HXD	147.675	147.075	A
KNOXVILLE	W4BBB	147.90	147.30	
LAFOLLETTE	W4TZG	146.07	146.67	
LAKE CITY	WB40AH	146.22	146.82	N
LEBANON	WR4BBM	146.13	146.73	N
LEXINGTON	WB4LGH	146.43	147.03	N
MADISON	WR4AKN	146.04	146.64	N
MANCHESTER	WR4ACI	146.10	146.70	A
MARTIN	WA4ZQX	146.625	146.025	N
MEDINA	K4BEZ	146.37	146.97	N
MEMPHIS	WR4AZK	144.89	145.49	N
MEMPHIS	WB4MQD	145.33	PACKET	N
MEMPHIS	W4GY5	146.04	146.64	N
MEMPHIS	WR4AOG	146.10	146.70	N
MEMPHIS	WR4AGR	146.13	146.73	N
MEMPHIS	WR4ABS	146.19	147.51	N
MEMPHIS	WR4AHO	146.22	146.82	N
MEMPHIS	WR4AZK	146.25	146.85	N
MEMPHIS	WA4ETE	146.28	146.88	N
MEMPHIS	K4BN	146.34	146.94	N
MEMPHIS	K4FZJ	146.40	147.00	N
MEMPHIS	WR4AXF	146.46	147.06	N
MEMPHIS	WR4BCU	147.63	147.03	N
MEMPHIS	WR4AWT	147.67	147.09	N
MEMPHIS	WA4ETE	147.72	147.12	N
MEMPHIS	WR5AII	147.75	147.15	N
MEMPHIS	WR4AZK	147.78	147.17	N
MEMPHIS	WD4APK	147.84	147.24	N
MEMPHIS	WR4AZC	147.87	147.27	N
MEMPHIS	WR4ASF	147.90	147.30	N
MEMPHIS	WR4ATA	147.96	147.36	N
MEMPHIS	WR4ASR	147.99	147.39	N
MORRISTOWN	WB40AH	147.63	147.03	N
MORRISTOWN	WB40AH	147.825	147.225	N
MOUNTAIN CITY	WD40MO	144.87	145.47	N
MURFREESBORO	WB4LHO	144.57	145.17	N
NASHVILLE	WB4HTX	144.83	145.43	N
NASHVILLE	WA4FCD	146.01	146.61	N
NASHVILLE	WR4AKN	146.07	146.67	N
NASHVILLE	WB4QES	146.16	146.76	N
NASHVILLE	WR4AFA	146.19	146.79	N
NASHVILLE	N4TK	146.25	146.85	N
NASHVILLE	WB4QES	146.28	146.88	N
NASHVILLE	WA4PCD	146.34	146.94	N
NASHVILLE	AF4K	147.615	147.015	N
NASHVILLE	WB4JVP	147.75	147.15	N

NASHVILLE	WA4PCD	147.78	147.18	N
NASHVILLE	WB4ZSA	147.90	147.30	N
NASHVILLE	WR4AKN	147.96	147.36	N
NASHVILLE	WR4	147.975	147.375	N
NASHVILLE	WB4DLQ	147.99	147.39	N
OAK RIDGE	W4SKH	146.28	146.88	A
OAK RIDGE	K4EAJ	147.72	147.12	
OAK RIDGE	K4EAJ	147.75	147.15	R
PARIS	WR4AYM	147.96	147.36	N
PULASKI	W4JVO	146.715	146.115	N
SAVANNAH	WB4DQU	146.31	146.91	N
SHELBYVILLE	WR4AQM	147.66	147.06	N
SHORT MT	W4KKO	144.89	145.49	
SHORT MT	WR4AZF	146.31	146.91	
SPARTA	W4BSA	147.69	147.09	
SPRINGFIELD	WR4AGH	147.63	147.03	N
UNION CITY	WR4AUQ	146.10	146.70	N
WAVERLY	WB4PRF	146.685	146.085	N
WINCHESTER	WR4AFH	146.22	146.82	N

220 MHZ

CHATTANOOGA	K4VCM	223.18	224.78	A
CHATTANOOGA	WA4ZOK	223.30	224.90	
GREENEVILLE	WB4NKM	223.34	224.94	A
KNOXVILLE	WA4YDN	222.86	224.46	
KNOXVILLE	K4HXD	223.16	224.76	P
NASHVILLE	WB4ZSA	222.38	223.98	N

440 MHZ

ALAMO	WB4EDS	448.75	443.75	N
CHATTANOOGA	WA4ZOK	439.25	427.25	V
GREENEVILLE	K4OTM	439.25	427.25	N
GREENEVILLE	KB4UG	449.20	444.20	N
JACKSON	WB4EPG	447.80	442.80	N
KNGSPT/HLSTON MT	WR4ADO	449.50	444.50	N
KNOXVILLE	K4HXD	449.30	444.30	
MEDINA	K4BEZ	447.05	442.05	N
MEMPHIS	WA4QWW	447.80	442.80	N
MEMPHIS	WB4BDO	448.40	443.40	N
MEMPHIS	WD4APK	449.30	444.30	N
MEMPHIS	WA4FNL	449.50	444.50	N
NASH/GALLATIN	WD4KWP	449.45	444.45	N

SIX METERS

CHATTANOOGA	WB4LRD	52.01	53.01	N
KNOXVILLE	WB4IOB	52.15	53.15	
KNOXVILLE	WA4YON	52.64	53.64	
KNOXVILLE	K4HXD	52.76	52.525	
LAFOLLETTE	K4BGW	52.17	53.17	
MEMPHIS	WR4AZK	52.01	53.01	N

10 METERS

KNOXVILLE	K4HXD	29.52	29.62	P
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VIRGINIA REPEATERS

TWO METERS

AFTON MT	W4PNT	147.675	147.075	N
ALEXANDRIA	WR4AXB	146.055	146.655	M
ALEXANDRIA	W4HFF	146.085	146.685	M
ALEXANDRIA	W4HFF	147.915	147.315	M
ARLINGTON	WA4YVN	146.445	147.045	M
BARREN SPRINGS	WR4AFQ	146.07	146.67	
BARREN SPRINGS	K4HZS	147.78	147.18	
BERRYVILLE	WR4APE	147.90	147.30	M
BLACKSBURG	WA4YRJ	146.115	146.715	
BLAND	N4AZJ	144.75	145.35	N
BLUE RIDGE	WA4MCP	147.765	147.165	N
BLUEFIELD	W8MOP	144.89	145.49	A

VIRGINIA

BLUEFIELD	WD80GY	146.415	147.015	PA
BRIARPATCH MT	WR4AHR	147.69	147.09	
BRISTOL	K4ILW	146.07	146.67	A
BRISTOL	W4SZP	146.28	146.88	
BRUMLEY MT	WR4ATJ	146.01	146.61	N
CHARLOTTESVILLE	WR4ATL	146.16	146.76	
CHARLOTTESVILLE	WR4ATL	146.325	146.925	
CHESAPEAKE	N4SD	146.19	146.79	
CHRISTIANSBURG	WA4HBC	147.855	147.255	N C
CLIFTON FORGE	K4QEL	147.90	147.30	N
COVINGTON	WB4CAV	146.22	146.82	N
CULPEPPER	WR4BCS	147.72	147.12	M
DANVILLE	WR4BDN	146.10	146.70	
DANVILLE	WR4AHG	147.95	147.35	N
DANVILLE(DCC)	WB4GJG	146.325	146.925	
FAIRFAX	W4LBL	146.19	146.79	PA
FAIRFAX	K4VYN	146.31	146.91	PA
FALLS CHURCH	W4AQD	144.75	145.35	M
FARMVILLE	WB4NWP	146.31	146.91	
FINCASTLE	W4WIC	146.04	146.64	
FOREST	WR4ADY	146.16	146.76	EA
FRANKLIN	K4SPS	147.90	147.30	N PA
FREDRICKSBURG	WB4LNT	147.615	147.015	N
FRONT ROYAL	WB4NER	144.75	145.35	M P
GALAX	WA4DFH	144.53	145.13	EA
GALAX	WA4ZIV	144.83	145.43	N
GATE CITY	WD4GTA	147.945	147.345	N
GRUNDY	K4HWQ	147.90	147.30	N A
GUM SPRING	KB4GX	147.87	147.27	
HAMPTON	WR4ALW	146.13	146.73	
HAMPTON	WR4AFT	146.34	146.94	N T
HAYS	WR4AWR	147.60	147.00	N
HAZEL MT	WD4CYZ	146.235	146.835	N
HIGH KNOB	K4AXO	147.81	147.21	N
HIGHLAND SPNGS	KC4AO	146.145	146.745	N P
JOHNSONS MT	WB4UBJ	147.705	147.105	LR
JONESVILLE	WA4QVC	146.31	146.91	
KLMNRK/SALUDA	WA4UAF	147.93	147.33	
LEBANON	N4ATT	144.61	145.21	N C
LEXINGTON	WA4WBD	146.07	146.67	
LEXNGTN/COLE MT	K4PQD	144.71	145.31	N
LEXNGTN/COLE MT	K4PQD	147.93	147.33	N
LYNCHBURG	WR4AXO	146.01	146.61	N
LYNCHBURG	WA4RTS	146.34	146.94	N
LYNCHBURG	WD4EXH	147.84	147.24	N L
LYNCHBURG	W4OSH	147.975	147.375	PA
MANASSAS	WD4UCE	144.67	145.27	M R
MANASSAS	WB4HHN	146.37	146.97	PA
MARION	N4BIW	146.04	146.64	
MARTINSVILLE	AB4L	147.885	147.285	N
MCLEAN	WD4TGW	147.81	147.21	M R
NEW MARKET	WR4ATG	146.025	146.625	M
NORFOLK	WB4LJM	146.10	146.70	
PETERSBURG	K4ARO	146.235	146.835	RB
PETERSBURG	K4SII	147.78	147.18	N
PETERSBURG	K4ARO	147.84	147.24	
PETERSBURG	WR4AWC	147.99	147.39	N T
PORTSMOUTH	K4LMY	146.25	146.85	N
RICHMOND	WB4QEY	146.04	146.64	
RICHMOND	WR4ACW	146.28	146.88	N PA
RICHMOND	W4ZA	146.34	146.94	T
RICHMOND	WA4ECM	147.66	147.06	N
RIPPLEMEADE	K4TUE	146.31	146.91	
ROANOKE	WR4AHT	146.34	146.94	N AO
ROANOKE/POOR MT	W4CA	146.385	146.985	L
SALEM	W4PDL	146.28	146.88	N
SAND MTN	WA4EMS	146.175	146.775	
SHENANDOAH	K4SAD	147.855	147.255	N P
SOUTH BOSTON	WR4AYU	146.46	147.06	
STAUNTON	WA4ZBP	146.25	146.85	
STAUNTON	W4WRN	147.645	147.045	N
STERLING	WA4TXE	146.115	146.715	M

SUFFOLK	WR4AKS	146.40	147.00	N PA
TAZEWELL	WD4DZE	147.75	147.15	N
VIRGINIA BEACH	WB2YVN	146.01	146.61	N C
VIRGINIA BEACH	WA4KXV	146.37	146.97	EA
VIRGINIA BEACH	WA4SBC	147.645	147.045	N
WARRENTON	WB4FJT	147.765	147.165	M
WAYNESBORO	W4BLD	147.63	147.03	PA
WILLIAMSBURG	W4NTG	146.07	146.67	N
WINCHESTER	W4RKC	146.22	146.82	EA
WOODBIDGE	WB4FQR	147.84	147.24	M A
WYTHEVILLE	WA4PDL	146.175	146.775	N

220 MHZ

ALEXANDRIA	WA4CCF	223.22	224.82	M
FAIRFAX	K4GCM	222.34	223.94	
FALLS CHURCH	N4CHP	222.22	223.82	M
GALAX	WA4DFH	222.74	224.34	C
LYNCHBURG	WB4DBB	223.24	224.84	C
PORTSMOUTH	K4CRK	223.02	224.62	N C
SUFFOLK	WA4JUO	222.34	223.94	N C

440 MHZ

ALEXANDRIA	WR4AAG	439.25	440.85	M V
ALEXANDRIA	W4HFF	449.60	441.20	M
ANNANDALE	WR4AQG	444.85	446.45	M PL
ARLINGTON	K8ZOA	449.00	441.00	M L
CHARLOTTESVILLE	WR4ATL	449.25	441.25	
COVINGTON	WB4CAV	447.25	442.25	N
FAIRFAX	K4JYF	444.75	440.75	
FALLS CHURCH	WB8CRK	449.45	441.45	M L
LEXNGTN/COLE MT	K4POD	449.15	441.15	N P
LYNCHBURG	WB4DBB	449.35	441.35	L
LYNCHBURG	K4HEX	449.50	441.50	N
MANASSAS	WD4UCE	444.225	440.225	M L
PETERSBURG	K4ARO	449.50	441.50	N
PETERSBURG	WA4MRJ	449.85	441.85	N
PORTSMOUTH	K4MLY	449.25	440.25	N
ROANOKE	WR4AFE	447.75	440.75	N
ROANOKE/POORE MT	W4CA	442.50	440.50	L
SOUTH BOSTON	WB4YWH	447.25	440.25	N C
STAUNTON	W4WRN	449.95	441.95	N C
TAZEWELL	WD4DZE	448.90	440.90	N P
TYSONS CORNER	WB6GUS	448.50	440.50	M
VIRGINIA BEACH	WA4KXV	449.95	441.95	
WAYNESBORO	W4BLD	449.05	441.05	
WAYNESBORO	W4BLD	449.30	441.30	PA
WOODBIDGE	WB4FQR	444.90	440.90	M

SIX METERS

ABINGTON	WR4ATJ	52.01	53.01	M L
ALEXANDRIA	WA4CCF	52.13	53.13	M P
CHARLOTTESVILLE	WR4ATZ	52.525	53.525	N RBC
DANVILLE(DCC)	WB4GJG	52.13	53.13	
FAIRFAX	K4DCS	52.58	53.58	M
LEXINGTON	K4POD	52.01	53.01	N
LYNCHBURG	WB4DBB	52.15	53.15	
NORFOLK	WR4ATK	53.525	54.525	N
SOUTH BOSTON	WB4YWH	52.07	53.07	N C

10 METERS

CHARLOTTESVILLE	K4RKA	29.60	30.60	N RBC
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NOTICE: We will clean All repeaters in the index labeled "C" or "P" from the November index if they have been listed for 1 year and we have no further info. To Make changes or corrections to the index, contact your Director or the Editor

MARYLAND REPEATERS

2 METERS

ADELPHI	WB3FRW	144.77	145.37
ANNAPOLIS	W3VRD	144.73	145.33
ASHOTON	WR3FT	146.40	147.00
BALTIMORE	K3SP	146.07	146.67
BALTIMORE	W3DID	147.63	147.03
BALTIMORE	W3BPX	147.885	147.285
BEL AIR	K3GUX	146.175	146.775
BETHESDA	K3YGG	144.69	145.29
CHELTENHAM	W3A3PC	147.75	147.15
CHEVERLY	WR3ABC	146.40	147.00
COLLEGE PARK	W3EAX	144.89	145.49
COLUMBIA	K3CUJ	147.735	147.135
COLUMBIA	WR3AGP	147.99	147.39
CROWNSVILLE	WR3ACL	146.10	146.70
CUMBERLAND	W3I11	144.85	145.45
CUMBERLAND	WR3AGI	146.28	146.88
DAVIDSONVILLE	WR3AJP	147.705	147.105
E. BALTIMORE	WR3AFI	147.84	147.24
EASTON	W3GVI	146.445	147.045
FREDERICK	WR3ABL	146.13	146.73
FREDERICK	W3A0HI	147.66	147.06
FROSTBURG	K3CCC	147.99	147.39
GAITHERSBURG	WR3AKP	146.355	146.955
GLEN BURNIE	W3APJU	146.205	146.805
GREENBELT	W3ZM	146.235	146.835
GREENBELT	W3MZG	146.28	146.88
HAGERSTOWN	W3CWC	146.34	146.94
HAGERSTOWN	K3UMV	147.69	147.09
HAVRE DE GRACE	K3UAV	146.25	146.85
JESSUP	W3DZD	146.10	146.70
LEXINGTON PARK	WR3ACP	146.04	146.64
N. BALTIMORE	W3NET	146.265	146.865
OCEAN CITY	W3HTB	147.78	147.18
POTOMAC	WR3ACF	147.87	147.27
ROCKVILLE	W3RCN	144.65	145.25
ROCKVILLE	WR3ABM	146.04	146.64
SALISBURY	W3A3RW	146.22	146.82
SALISBURY	W3YII	146.385	146.985
SILVER SPRING	WR3AED	147.78	147.18
W. BALTIMORE	WR3AGS	147.945	147.345
WASHINGTON DC	WR3AGG	147.96	147.36
WESTMINSTER	K3PZN	144.81	145.41
WHEATON	WR3AFD	147.69	147.09

220 MHZ

DAMASCUS	WR3AHS	222.98	224.58
DAVIDSONVILLE	N3ARN	222.28	223.88
E. BALTIMORE	WR3AFI	222.24	223.84
N. BALTIMORE	N3IC	222.64	224.24
W. BALTIMORE	W3DZD	223.20	224.80
W. BALTIMORE	WR3AKN	223.34	224.94
WASHINGTON DC	W3NKF	222.90	224.50
WHEATON	WR3AFD	223.30	224.90

440 MHZ

ANNAPOLIS	W3EAD	444.475	449.475
BALTIMORE	K3SP	444.35	449.35
BALTIMORE	WB3JVV	449.15	444.15
BURTONSVILLE	W3ATKW	448.65	443.65
E. BALTIMORE	W3WQ	439.25	444.25
E. BALTIMORE	WR3AFI	444.55	449.55
FREDERICK	W3A0HI	443.75	448.75
FREDERICK	WR3ABL	449.80	444.80
GAITHERSBURG	WR3AKP	443.60	448.60
GLEN BURNIE	W3MEJ	448.70	443.70
HARMAIS	W3DZY	443.925	448.925
HAVRE DE GRACE	K3UAV	448.10	443.10
JESSUP	W3DZD	449.10	444.10
LEXINGTON PARK	W3UMY	448.05	443.05
OODENTON	W3GPC	449.50	444.50
SILVER SPRING	WR3ARZ	448.45	443.45
SUITLAND	W3BARZ	444.40	449.40
UPPER MARLBORO	W3TUT	448.30	443.30
W. BALTIMORE	W3DZD	448.35	443.35
W. BALTIMORE	W3WLO	448.55	443.55
WASHINGTON DC	W3AKOK	444.975	449.975
WHEATON	WR3AFD	444.30	449.30

10 METERS

PARKTON	K3SP	29.56	29.66
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6 METERS

BALTIMORE	W3MOR	52.03	53.03
WHEATON	W3DBU	52.25	53.25

DELEWARE REPEATERS

2 METERS

BETHANY BEACH	W3HTB	147.78	147.18
DOVER	K3FPB	146.37	146.97
MILLSBORO	K3JL	147.675	147.075
NEWARK	WR3ACV	146.10	146.70
NEWARK	W3BJTK	146.355	146.955
WILMINGTON	WR3ABA	146.13	146.73
WILMINGTON	W3A3LS	147.825	147.225

220 MHZ

NEWARK	WB3JVV	222.36	223.96
NEWARK	WB3JVV	223.36	224.96
WILMINGTON	WB3DPJ	222.40	224.00
WILMINGTON	AD3M	222.94	224.54

440 MHZ

NEWARK	WB3JVV	448.05	443.05
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ALABAMA REPEATERS

2 METERS

ALBERTVILLE	K4WSS	146.16	146.76
ALEXANDER CITY	W4AKIK	146.37	146.97
ANDALUSIA	W4ARFF	146.34	146.94
ASHEVILLE	W4RAQS	147.81	147.21
ATHENS	W4RAKD	146.55	147.15
AUBURN	K4RY	147.84	147.24
BAY MINETTE	K4JIE	146.01	146.61
BIRMINGHAM	K4GTQ	144.55	145.15
BIRMINGHAM	K4QWW	144.75	145.35
BIRMINGHAM	K4TR	144.81	145.41
BIRMINGHAM	W4RACB	146.16	146.76
BIRMINGHAM	W4ASGI	146.28	146.88
BIRMINGHAM	W4CUE	146.34	146.94
BIRMINGHAM	W4EVO	146.43	147.03
BIRMINGHAM	K4TJW	146.555	146.055
BIRMINGHAM	N4YZ	146.985	146.385
BIRMINGHAM	K4EIR	147.285	147.885
BIRMINGHAM	W4RAXA	147.63	147.03
BIRMINGHAM	W4RAGZ	147.75	147.15
BIRMINGHAM	W4MH0	147.93	147.33
BLACK	K4LYV	147.81	147.21
BOW	K4CWD	147.66	146.06
BREWTON (EAST)	W4RBAE	146.37	146.97
CHEROKEE-BARTON	K4YVV	146.16	146.76
CLANTON	W4RAYJ	146.19	146.79
CULLMAN	W4RASY	146.25	146.85
DECATUR	W4ATD	146.13	146.73
DECATUR	W4ATD	146.40	147.00
DEMOPOLIS	W4AJUN	146.04	146.64
DOTHAN	N4AN	146.25	146.85
ENTERPRISE	W4DR0J	147.84	147.24
EUFALA	W4AKA	146.10	146.70
EVERGREEN	W4RALR	146.31	146.91
FATROPE	W4ANWE	146.10	146.70
FAYETTE	K4ACL	147.63	147.03
FLORALA	W4D0W	147.66	147.06
FLORENCE	W4BN0H	146.22	146.82
FLORENCE	W4A1EN	146.28	146.88
FLORENCE (UALA)	W4BSRG	146.31	146.91
FORT PAYNE	W4RNX	147.87	147.27
GADSDEN	W4DEN	146.22	146.82
GRADY	W4AP	147.78	147.18
GREENVILLE	K4TNS	146.07	146.67
GROVE HILLS	W4BTHU	147.87	147.27
GULF SHORE	W4BDWS	146.04	146.64
GUNTSVILLE	K4VQJ	147.165	146.565
HALEYVILLE	K4KQE	146.19	146.79
HAMILTON	W4ARNN	146.37	146.97
HAMILTON	W4RBNB	146.985	146.385
HARTSELLE	W4RBDH	146.805	146.205
HEADLAND	W4A0EJ	146.07	146.67
HUNTSVILLE	W4RAIU	144.83	145.43
HUNTSVILLE	K4IOU	146.34	146.94
HUNTSVILLE	K4RSB	147.225	147.825
HUNTSVILLE	W4BLT	147.78	147.18
HUNTSVILLE	W4R4VG	147.90	147.30
JACKSONVILLE	W4DKTY	147.375	147.975
JASPER	W4R4FT	146.04	146.64
JASPER	W4R4SM	146.10	146.70
JASPER	W4B4CN	146.31	146.91
LANETT	K4DXZ	147.60	147.00

LEXINGTON/ANDSON	WR4AYZ	147.84	147.24
LINCOLN	KA4DQZ	144.89	145.49
MOBILE	W4YXO	146.13	146.73
MOBILE	WR4AHO	146.22	146.82
MOBILE	W4BYXM	146.34	146.94
MOBILE	W4ADCL	147.66	147.06
MOBILE	W4AHFL	147.90	147.30
MONTGOMERY	W4AP	146.16	146.76
MONTGOMERY	W4BGDD	146.25	146.85
MONTGOMERY	WR4AUT	146.31	146.91
MONTGOMERY	WR4AUH	146.40	147.00
MONTGOMERY	WR4AHZ	147.87	147.27
MT. CHEHA	K4BOP	147.69	147.09
MUSCLE SHOALS	W4JUN	146.01	146.61
MUSCLE SHOALS	W4ANQH	146.715	146.115
MUSCLE SHOALS	W4BDIN	147.945	147.345
OPELIKA	W4ZBA	147.195	147.595
OPELIKA	W4ZBA	147.72	147.12
OPELIKA	W4AKNN	147.90	147.30
OPR	W4RAKM	146.04	146.64
OXFORD	W4RAYM	146.10	146.70
PELL CITY	W4RKS	146.01	146.61
PHENIX CITY	WR4BBB	146.01	146.61
PHENIX CITY	N4BJZ	146.28	146.88
RIVERSIDE	W4RAQS	147.81	147.21
SCOTTSBORO	K4D0KE	146.55	146.15
SCOTTSBORO	WR4AUZ	146.31	146.91
SELMA	W4NCK	146.13	146.73
SELMA	W4R4XP	147.96	147.36
STEELE	W4QEN	146.07	146.67
STEVENSON	W4APKB	147.96	147.36
TALLADEGA	W4GBD	147.96	147.36
THELVILLE	K4JTM	146.19	146.79
THOMASVILLE	W4AGNA	147.60	147.00
TROY	WR4AHH	146.22	146.82
TUSCALOOSA	WR4AEH	146.22	146.82
TUSCALOOSA	W4AQAZ	146.37	146.97
TUSCALOOSA	KX4I	147.66	147.06
TUSKEGEE	WR4ASH	146.07	146.67
VERNON	W4ATL	146.07	146.67
WARRIER	W4AYOX	146.85	146.45
WETUMPKA	W4AP	146.04	146.64
WETUMPKA	W4RAZL	146.455	147.045
WETUMPKA	W4AMTG	147.645	147.045
WETUMPKA	W4AMTG	147.745	147.045
WILSONVILLE	N4YZ	146.985	146.385
WINFIELD	KG4X	146.955	146.355

GEORGIA REPEATERS

2 METERS

ADAIRSVILLE	WB4LAR	146.085	146.685
ALBANY	WR4ADM	146.10	146.70
ALBANY	WR4ABE	146.22	146.82
ALBANY	WR4AGH	147.87	147.27
ASHBURN	K4OT	147.285	147.885
ATHENS	W4ABKF	146.13	146.73
ATHENS	K4TOU	147.375	147.975
ATLANTA GA TECH	W4AQL	147.66	147.06
ATLANTA	N4CLA	146.69	146.29
ATLANTA	WR4ABE	146.04	146.64
ATLANTA	W4ABE	146.22	146.82
ATLANTA	W4R4BC	146.37	146.97
ATLANTA	W4RAHS	147.855	147.255
AUGUSTA	W4R4GD	146.34	146.94
BALDWIN	W4DNWH	147.78	147.18
BLAIRSVILLE*	W4AEZN	147.69	147.09
BURNSWICK	W4R4WE	147.87	147.27
CLARKE	W4BUD	147.87	147.27
CARROLLTON	W4R4W	146.04	146.64
CEDARSTOWN	W4RAZU	147.72	147.12
CLEVELAND	K4FOW	144.69	145.29
CLOUDLAND	N4AHE	147.225	147.825
CHUHTTA-RTTY	W4R4XM	146.46	147.06
COLUMBUS	W4R4BU	144.71	145.31
COLUMBUS	W4R4BU	146.01	146.61
COLUMBUS	W4AYYE	146.13	146.73
COLUMBUS	N4BJZ	146.28	146.88
COLUMBUS	W4AHCI	147.21	146.81
COLUMBUS-RTTY	K4ACH	144.77	145.37
CONYERS	W4BJDM	147.81	147.21
COVINGTON	W4A5T	146.925	146.325
CUMMING	W4R4FT	146.04	146.64
CUMMING	W4R4OC	147.75	147.15
DALLAS	W4R4HM	146.25	146.85
DALLAS	KB4EO	147.96	147.36
DUBLIN	W4H2X	147.96	147.36
FOLKSTON	K4DMK	146.19	146.79
FOREST PARK	K4KKK	144.65	145.25
GAITHERSBURG	W4R4AJ	147.815	147.215
GAINSVILLE	W4RAEK	146.07	146.67
GRIFFIN	W4R4GA	144.81	145.41

Md., Del., N.Va. Index Ctsy — Gary Hendricksen, T-MARC
 Florida Index Ctsy — Al Friend, Fla. Repr. Council
 Ala. & Ga. Index Ctsy — Dave Nulty, Ga. Repr. Council

GEORGIA

GRiffin	WR4ATV	146.31	146.91
GRiffin	WR4AEA	146.43	147.43
HAMILTON	WD4MUV	147.835	147.235
HAPEVILLE	WR4ABN	147.63	146.03
HARTWELL*	KY4AT	146.895	146.295
IRWINTON	WB4NFG	147.84	147.24
JESSE	W4MM	146.13	146.73
JESSE	WA4EQL	146.07	146.67
JONESBORO	WA4DGE	144.73	145.33
JONESBORO	W5BO	144.85	145.45
KENNESAW	WB4UPC	145.43	144.83
KENNESAW	WD4BMC	146.13	146.73
KENNESAW	WR4AMN	146.28	146.88
KENNESAW	WB4UPC	147.93	147.33
KENNESAW	WR4AVJ	147.93	147.33
LYONS*	K4HAO	146.22	146.82
MACON	WB4QLL	144.83	145.43
MACON	WB4BKM	146.06	146.66
MACON	K4IIA	147.66	147.07
MARIETTA	W4PPT	147.075	147.675
METTER	W4TUM	147.31	146.91
MILLEDGEVILLE	WB4DOJ	146.10	146.70
MOULTRIE	WD4KOW	146.19	146.79
NEWMAN	K4SEX	146.19	146.79
PINE MT VALLEY	WB4ULJ	144.59	145.19
PRESTON	W4TOV	146.385	146.985
QUITMAN	WR4BBH	146.28	146.88
RINGGOLD	WR4ABZ	146.715	146.315
ROME	WR4ADH	146.34	146.94
ROSWELL	WB4BRO	144.87	145.47
SANDY SPRINGS	WB4CPL	144.75	145.35
SANDY SPRINGS		146.40	147.00
SAVANNAH	WD4AFY	144.77	145.37
SAVANNAH	K4NXL	146.10	146.70
SAVANNAH	WR4AVO	147.93	147.33
SAVANNAH*	W4HBB	146.28	146.88
SAVANNAH*	W4HBB	146.37	146.97
SMYRNA	W44YUR	144.61	145.21
STONE MTN	WR4AED	146.16	146.76
STONE MTN-RTTY	WR4BAG	147.105	147.705
SVR CKR/MT ALTO	K4HNM	147.90	147.30
THOMASBORO*	K4VYX	146.79	146.39
THOMASVILLE	K4IMK	147.99	147.39
THOMASVILLE	K4UFM	147.66	147.06
TOCCOA*	KA4DIP	147.93	147.33
VALDOSTA	W44SMH	146.16	146.76
VALDOSTA	W44SMH	147.135	147.735
VIENNA	W44RWS	144.89	145.49
WARNER ROBBINS	WB4BED	146.25	146.85
WARNER ROBBINS	WR4AZP	147.90	147.30
WAYCROSS	WR4AMK	146.04	146.64
WRIGHTSVILLE	W44RVB	146.34	146.94

220 MHz

ATLANTA	W4LBP	223.22	224.82
KENNESAW	WB4UPC	222.34	223.94
KENNESAW	WB4UPC	223.34	224.94

440 MHz

ALBANY	W44GKI	439.25	442.25
COLUMBUS	W44QHN	449.20	444.20
WARNER ROBBINS	WD4ASB	444.50	449.50

FLORIDA REPEATERS

2 METERS

ARCADIA	W4M1N	147.675	147.075
BELLE GLADE	W4MML	144.85	145.45
BELLE GLADE	A14D	147.60	147.00
BODCA RATON	WB4QFY	146.22	146.82
BRADENTON	W4DHA	144.69	145.29
BRADENTON	WR4NYP	146.01	146.61
BRADENTON	W4TAS	146.22	146.82
BRADENTON	W44BYV	147.69	147.09
BRANDON	WB4B1M	147.765	147.165
BRANDON	WD4AGM	147.99	147.39
BROOKSVILLE	WR4AKR	146.13	146.73
CALLAHAN	KC4P	146.01	146.61
CANTONMENT	WB4J1M	147.93	147.33
CLERMONT	WR4APH	146.295	146.895
CLERMONT	WR4AYH	147.78	147.18
COCOA BEACH	WR4AFI	146.43	147.03
COCOA	WR4AFI	146.28	146.88
CRESTVIEW	WB4UVI	146.13	146.73
CRESTVIEW	WB4UVI	147.96	147.36
CRYSTAL RIVER	WR4AQX	147.87	147.27
DAYTONA BEACH	WR4ALG	146.235	146.835
DAYTONA BEACH	WR4RFL	146.34	146.94
DAYTONA BEACH	WR4AKH	147.75	147.15
DAYTONA BEACH	WB4HAO	147.84	147.24
DEERFIELD BEACH	W42UGG	146.105	146.705
DELAND	WR4ARF	147.96	147.36
DISNEY WORLD	WR4AMG	147.90	147.30
ENGLEWOOD	KODGF	146.175	146.775

EUSTIS	FLORAL CITY	W44ARU	147.855	147.255
FT LAUDERDALE	WR4AIV	W41U	146.355	146.955
FT LAUDERDALE	NR44VC	N4A1V	144.51	145.11
FT LAUDERDALE	WR4ADU	W44LZR	144.610	145.210
FT LAUDERDALE	WB4LAH	W44TPR	144.63	145.23
FT LAUDERDALE	AC4K	W44LZR	144.73	145.33
FT LAUDERDALE	WR4ADU	AC4K	146.04	146.64
FT LAUDERDALE	WR4ADU	W44LZR	146.19	146.79
FT LAUDERDALE	WB4HAQ	WR4ADU	146.31	146.91
FT LAUDERDALE	W44TAT	WB4HAQ	146.355	146.955
FT LAUDERDALE	WR4AG1	WR4AG1	146.43	147.03
FT LAUDERDALE	W441QJ	W441QJ	147.735	147.135
FT MYERS	WR4AES	WR4AES	146.19	146.79
FT MYERS	WB4TLF	WB4TLF	146.28	146.88
FT PIERCE	WR4AHM	WR4AHM	146.13	146.73
FT PIERCE	W44MLD	W44MLD	147.81	147.21
FT WALTON BCH	WR4ABZ	WR4ABZ	146.19	146.79
FT WALTON BCH	W4MTD	W4MTD	146.28	146.88
FT WALTON BCH	WR4BDM	WR4BDM	147.60	147.00
GAINESVILLE	WB41JR	WB41JR	146.19	146.79
GAINESVILLE	WR4ACE	WR4ACE	146.22	146.82
GAINESVILLE	W4DFU	W4DFU	146.31	146.91
GAINESVILLE	KB4HF	KB4HF	147.975	147.375
HALLANDALE	WR4ACC	WR4ACC	146.25	146.85
HOLLYWOOD	K2YRZ	K2YRZ	146.085	146.685
HOLLYWOOD	W44WHD	W44WHD	146.10	146.70
HOLLYWOOD	WB4TON	WB4TON	146.385	146.985
HOMESTEAD	W4SVI	W4SVI	146.235	146.835
HOMESTEAD	KB4KW	KB4KW	146.40	147.00
HUDSON	WR4AXH	WR4AXH	146.205	146.805
JACKSONVILLE	WR4AMI	WR4AMI	146.04	146.64
JACKSONVILLE	WR4AZH	WR4AZH	146.13	146.73
JACKSONVILLE	K4YXL	K4YXL	146.16	146.76
JACKSONVILLE	W441HY	W441HY	146.205	146.805
JACKSONVILLE	WR4AKP	WR4AKP	146.25	146.85
JACKSONVILLE	K4YIL	K4YIL	146.28	146.88
JACKSONVILLE	K4CIP	K4CIP	146.40	147.00
JACKSONVILLE	K44IUC	K44IUC	147.645	147.045
JACKSONVILLE	WB4NCZ	WB4NCZ	147.69	147.09
JACKSONVILLE	NAUF	NAUF	147.795	147.195
JACKSONVILLE	WR4APN	WR4APN	147.825	147.075
JACKSONVILLE	WR4AOT	WR4AOT	147.90	147.30
JACKSONVILLE	K4YXL	K4YXL	147.99	147.39
JUNO BEACH	WR4APJ	WR4APJ	147.84	147.24
JUPITER	WB41LH	WB41LH	146.025	146.625
KEY WEST	W44UOV	W44UOV	146.34	146.94
LAKE CITY	W44VRR	W44VRR	147.75	147.15
LAKE PARK	W44UZZ	W44UZZ	147.75	147.15
LAKE PLACID	WR4BBR	WR4BBR	147.645	147.045
LAKE WALES	WB41W	WB41W	146.93	147.53
LAKELAND	W2HGVD	W2HGVD	144.69	145.29
LAKELAND	WB4QID	WB4QID	144.83	145.43
LAKELAND	WB4QID	WB4QID	146.085	146.685
LARGO	WR4AKV	WR4AKV	146.37	146.97
LIVE OAK	K4BZS	K4BZS	146.34	146.94
MARIANNA	WR4AWY	WR4AWY	146.07	146.67
MELBOURNE	WR4AMJ	WR4AMJ	146.01	146.61
MELBOURNE	WR4AMJ	WR4AMJ	146.25	146.85
MELBOURNE	WB4ABK	WB4ABK	146.385	146.985
MELBOURNE	WR4AEE	WR4AEE	147.705	147.105
MIAMI BEACH	W4FOM	W4FOM	147.78	147.18
MIAMI	WB4VMU	WB4VMU	144.53	145.13
MIAMI	K4HYE	K4HYE	144.55	145.15
MIAMI	WD4RDX	WD4RDX	144.59	145.19
MIAMI	KA4DFX	KA4DFX	144.65	145.25
MIAMI	AK4Y	AK4Y	144.67	145.27
MIAMI	W44ARD	W44ARD	144.71	145.31
MIAMI	KA4LD	KA4LD	144.75	145.35
MIAMI	KA4HWE	KA4HWE	144.79	145.39
MIAMI	WD4NLG	WD4NLG	144.81	145.41
MIAMI	K4BMF	K4BMF	144.83	145.43
MIAMI	WR4ASN	WR4ASN	144.87	145.47
MIAMI	KA4AQO	KA4AQO	144.89	145.49
MIAMI	WD4NLG	WD4NLG	146.13	146.73
MIAMI	WB4MCK	WB4MCK	146.16	146.76
MIAMI	WB4INA	WB4INA	146.205	146.805
MIAMI	W4NBL	W4NBL	146.295	146.895
MIAMI	W44ARD	W44ARD	146.325	146.925
MIAMI	WC4ACO	WC4ACO	146.34	146.94
MIAMI	WR4AFN	WR4AFN	146.46	147.06
MIAMI	N4AEN	N4AEN	147.615	147.015
MIAMI	WR4AHN	WR4AHN	147.69	147.09
MIAMI	WR4AMF	WR4AMF	147.75	147.15
MIAMI	AF4S	AF4S	147.81	147.21
MIAMI	WR4ASA	WR4ASA	147.84	147.24
MIAMI	W44TPW	W44TPW	147.855	147.255
MIAMI	WR4BDC	WR4BDC	147.87	147.27
MIAMI	WB4IVM	WB4IVM	147.885	147.285
MIAMI	WB4ESB	WB4ESB	147.90	147.30
MIAMI	N4XZ	N4XZ	147.93	147.33
MIAMI	WB4DTC	WB4DTC	147.945	147.345
MIAMI	WB4DXX	WB4DXX	147.975	147.375
MIAMI	W44LPT	W44LPT	147.99	147.39
MIAMI	K4IVD	K4IVD	146.10	146.70
MIAMI	WR4AND	WR4AND	146.07	146.67
NAPLES	WB4FUS	WB4FUS	146.265	146.865

NAPLES	W04LIS	147.945	147.345
NEW PORT RICHEY	WR4AML	146.025	146.625
NEW PORT RICHEY	WR4AZD	146.07	146.67
NICEVILLE	K4AEPO	146.13	146.73
OCALA	WR4ALJ	146.01	146.61
OKEECHOBEE	WB4QOQ	147.795	147.195
ORANGE PARK	WR4AOZ	146.07	146.67
ORLANDO	WB4TCT	146.04	146.64
ORLANDO	W4QHL	146.10	146.70
ORLANDO	WR4AFJ	146.16	146.76
ORLANDO	WR4AEL	146.22	146.82
ORLANDO	W4UOK	147.63	147.03
ORLANDO	WR44JR	147.69	147.09
ORLANDO	WR4AJM	147.72	147.12
ORLANDO	WR4AEL	147.825	147.225
ORLANDO	WR4ARO	147.99	147.39
PAHOKEE	K4JSA	144.65	145.25
PALATKA	K4DXL	147.69	147.09
PALATKA	W4EXP	147.93	147.33
PANAMA CITY	WR4ALU	146.10	146.70
PANAMA CITY	K4PMQ	146.34	146.94
PANAMA CITY	WB4SHN	147.99	147.39
PENSACOLA	W4UJAF	144.51	145.11
PENSACOLA	WR4ACZ	146.16	146.76
PENSACOLA	WR4BDF	146.25	146.85
PENSACOLA	WR4AIK	146.34	146.94
PENSACOLA	W441ZM	147.75	147.15
PERRY	W4RTN	146.37	146.97
PLANT CITY	K4RYR	144.56	145.16
PLANT CITY	WR4AMN	144.87	145.47
PLANTATION	W2GGG	144.70	145.30
POMPANO BEACH	WB4UFA	146.01	146.61
ROCKLEDGE	W44NQK	147.735	147.135
RUSKIN	WB4YRW	147.705	147.105
SAN ANTONIO	WR4APL	146.28	146.88
SAN MATEO	W44WCP	147.66	147.06
SANFORD	WR4AJC	146.13	146.73
SARASOTA	WR4AUP	144.53	145.13
SARASOTA	WR4AUP	146.13	146.73
SEBRING	WR4BAJ	147.87	147.27
SEMINOLE	K4GGX	147.135	146.70
SINGER IS	W44LGT	144.57	145.17
SINGER IS	N4BBZ	147.765	147.165
ST CLOUD	W4SIE	146.19	146.79
ST PETERSBURG	W44CZM	144.85	145.45
ST PETERSBURG	WB4COT	146.31	146.91
ST PETERSBURG	K4KE	147.60	147.00
ST PETERSBURG	K4SCL	147.66	147.06
ST PETERSBURG	W44YV	147.885	147.285
ST PETERSBURG	WR4AUF	147.915	147.315
ST PETERSBURG	W4APV	147.96	147.36
STUART	K4FI	146.46	147.06
SUNRISE	WD4NXL	144.69	145.29
TALLAHASSEE	WR4AAB	146.055	146.655
TALLAHASSEE	W44AHW	146.14	146.74
TALLAHASSEE	K4MZA	147.63	147.03
TAMPA	W4EFK	144.89	145.49
TAMPA	KR4X	146.16	146.76
TAMPA	W44KLW	146.19	146.79
TAMPA	W41TW	146.235	146.835
TAMPA	WR4AKA	146.265	146.865
TAMPA	WR4AXP	147.63	147.03
TAMPA	W4VDE	147.75	147.15
TAMPA	K4SDV	147.81	147.21
TAMPA	K04J	147.84	147.24
TAMPA	W44VOT	147.945	147.345
TAMPA	W4NHG	147.975	147.375
TAMPA	K4VGN	146.115	146.715
TITUSVILLE	WB41FH	146.07	146.67
TITUSVILLE	W4NOV	146.31	146.91
TITUSVILLE	K4DII	146.37	146.97
VERO BEACH	W4OT	146.04	146.64
W PALM BEACH	W4AARE	146.07	146.67
W PALM BEACH	W4AARE	146.10	146.70
W PALM BEACH	K4AEP	146.145	146.745
W PALM BEACH	WR4AFM	146.28	146.88
W PALM BEACH	WR4A1T	146.37	146.97
W PALM BEACH	WD4GBD	147.885	147.285
W PALM BEACH	WD4NWI	147.915	147.315
W PALM BEACH	W44HXZ	147.96	147.36
WINTER HAVEN	WR4AYU	146.055	146.655

FLORIDA

10 METERS

TAMPA	WD4MRW	29.54	29.64
220 MHZ			
CLEARWATER	WR4AVI	223.34	224.94
CLEARWATER	WD0PH	223.38	224.98
CRESTVIEW	WB4CDR	223.22	224.82
ELGIN AFB	WD4JEU	222.34	223.94
FT LAUDERDALE	WB4QKZ	222.62	224.22
FT LAUDERDALE	WR4ATI	223.30	224.90
JACKSONVILLE	WR4AQT	222.90	224.50
JACKSONVILLE	WA4KKY	223.34	224.94
KATHLEEN	N4ADN	223.02	224.62
KEY LARGO	WD4NEZ	222.94	224.54
LAKELAND	KF4Y	222.38	223.98
LARGO	W4NY	223.10	224.70
LARGO	WA4GCH	222.34	223.94
LARGO	K4SCL	223.06	224.66
MIAMI	WR4ASN	222.34	223.94
MIAMI	WD4GZL	222.38	223.98
MIAMI	WB4JNA	222.90	224.50
MIAMI	K44HME	222.18	224.78
MIAMI	WR4BCB	223.22	224.82
MIAMI	WR4BDH	223.26	224.86
MIAMI	WR4AKZ	223.34	224.94
MIAMI	WB4VMU	223.38	224.98
MILTON	K4TVO	223.10	224.70
NORTH MIAMI	A4T	223.14	224.74
ORLANDO	WBANK	222.22	224.82
ORLANDO	WBANK	223.34	224.94
PENSACOLA	WA4KST	223.34	224.94
ST PETERSBURG	WR4AWX	223.26	224.86
TAMPA	WA4PV	223.30	224.90
TAMPA	KD4	222.62	224.22
TAMPA	WA4VMU	223.14	224.74
TAMPA	WD4MCR	223.18	224.78
TALPICO	AA4WJ	222.94	224.54

440 MHZ

BOCA RATON	WD40YT	444.60	449.60
BOCA RATON	WB40FY	449.30	444.30
BRADENTON	WR4AWL	448.25	443.25
ELGIN AFB	WD4JEU	444.10	449.10
ELKINTON	K4DYB	449.30	333.00
FT LAUDERDALE	WR4AYC	443.25	427.25
FT LAUDERDALE	WD4FAM	442.45	447.45
FT LAUDERDALE	WB4HAG	444.10	449.10
FT LAUDERDALE	WR4ATI	447.10	442.10
FT LAUDERDALE	WR4AYC	447.20	442.20
FT LAUDERDALE	WA4TQJ	447.50	442.50
FT LAUDERDALE	WB4HAG	447.60	442.60
FT LAUDERDALE	WB4IRG	447.70	442.70
FT LAUDERDALE	WA4ZLR	448.00	443.00
FT LAUDERDALE	K4HIR	448.30	443.30
FT LAUDERDALE	WR4AYC	448.85	443.85
JACKSONVILLE	WR4AJU	444.50	449.50
JACKSONVILLE	WR4AMK	447.10	442.10
JACKSONVILLE	WR4AFJ	449.00	444.00
MARGATE	WB4RZS	447.00	442.00
MELBOURNE	WR4AEE	439.25	425.25
MELBOURNE	WR4AEG	443.80	448.80
MIAMI	WR4BDH	443.80	448.80
MIAMI	K4LIX	444.15	449.15
MIAMI	WB4INA	444.55	449.55
MIAMI	WD4NLG	447.15	442.15
MIAMI	WB4T7Z	447.30	442.30
MIAMI	WB4ZHP	447.40	442.40
MIAMI	WR4ARA	448.40	443.40
MIAMI	KA4BIY	448.50	443.50
MIAMI	WD4MTW	448.60	443.60
MIAMI	WR4BCB	448.75	443.75
MIAMI	WR4BDH	448.90	443.90
MIAMI	WB4ESB	449.00	444.00
MIAMI	WB4VMU	449.20	444.20
MIAMI	WD4EIH	448.00	443.00
MIAMI	WR4AML	448.00	443.00
NEW PORT RICHEY	WA4FNU	444.10	449.10
ORLANDO	WB4AXZ	444.90	449.90
ORLANDO	WB9CRH	444.975	449.975
ORLANDO	WB4EOT	448.00	443.00
PLANT CITY	WR4ANM	449.00	444.00
POMPAHO BEACH	WB4QKZ	447.25	442.25
RIEVIEW	WB4BIM	449.80	444.80
ROCKLEDGE	WR4AFT	444.25	449.25
SARASOTA	WB4BAJ	448.90	443.90
SARASOTA	WR4AUP	449.70	444.70
ST PETERSBURG	WA4IBM	444.20	449.20
TAMPA	WB4COT	443.80	448.80
TAMPA	WR4AXR	444.40	449.40
TAMPA	WA4TY	444.90	449.90
TAMPA	WA4FK	449.60	444.60
W PALM BEACH	WR4AIT	444.50	449.50
W PALM BEACH	WR4AIT	444.75	449.75

CVRA NET REGISTER

(Local Times Indicated)

TWO METERS

ANDERSON SC	37/97	WR4AIO	ANDERSON RADIO CLUB NET	DAILY	2130
ASHEVILLE NC	16/76	WA4BVV	YL NET	THU	2030
ASHEVILLE NC	16/76	WA4BVV	WESTERN NORTH CAROLINA TFC NET	TUE	2030
BECKLEY WV	25/85	WR4BKZ	BLACK DIAMOND ARC NET	MON	2100
BENSON NC	87/27	WR4ARL	JOHNSON ARS NET	DAILY	1930
BLUEFIELD VA	4.89/5.49	WD4RPT	TWIN STATE EMERG. NET	TU, TH	1900
BURLINGTON NC	82/82	WR4AKY	ALAMANCE COUNTY ARS NET	MON	2100
CATAMBA COUNTY NC	34/94	WR4AEU	CATAMBA COUNTY RACES NET	MON	1900
CHARLOTTE NC	735/135	WD4HEH	METROLINA 2-METER EMERG. NET	DAILY	2100
CHERAS SC	34/94	K4ICL	GHESTERFIELD COUNTY ARS NET	TUE	2030
COLUMBIA SC	10/70	WR4BDN	COLUMBIA ARC NET	THUR	2100
DANVILLE VA	52/52	WD4H	LAST CAPITOL SERVICE NET	THSN	2030
DILLON SC	78/18	W4NAT	DILLON CO. ARC NET	MON	1830
DORCHESTER SC	78/18	WA4UQZ	DORCHESTER ARC/RACES NET	1ST M	
DURHAM NC	34/94	WR4BEK	NEW RIVER VALLEY ARC NET	SUN	2100
DURHAM NC	34/94	WR4BEK	TRIANGLE RADIO ALERT NET	DAILY	2030
EDEN NC	99/39	WD4DIP	POSSUM TROT NET	MF	0630
FAYETTEVILLE NC	31/91	WR4ANN	ROCKINGHAM CO. RACES NET	WED	2100
FAYETTEVILLE NC	31/91	WR4ANN	POSSUM TROT NET	MF	0630
FLORENCE SC	37/97	WR4AGM	CAPE FEAR NET	DAILY	1900
FOREST VA	705/105	WB4JUB	FLORENCE 2-METER NET	MON	2000
GALAX VA	69/09	WR4AHR	VA. TELETYPE SOC. RTTY NET	MON	2000
GREENSBORO NC	16/76	WR4AOD	BIATRAPARCH ARC NET	TUE	2100
GREENSBORO NC	63/03	WD4IPZ	CVRA NEWS NET	WED	2030
GREENVILLE NC	52/52	WA4ADZ	GARS TUE 2100, ARS THU 2100, CODE DY	2030	
GREENVILLE SC	01/61	WR4AID	BRIGHTLEAF ARS NET	TUE	2100
GREENWOOD SC	76/155	WR4AUE	BLUE RIDGE ARC NET	TUE	2100
GRIFTON NC	16/76	WR4ABP	ABBEVILLE-GREENWOOD EMERG. NET	TUE	2200
HIGH POINT NC	72/12	WA4ZXA	ENC EMERGENCY NET	THU	2100
JACKSON TN	37/97	K4BEE	HIGH POINT ARC-ARES NET	THU	2000
JOHNSON CITY TN	19/79	WB4IKB	WEST TOWN WEATHER NET	DAILY	2030
KILMAR/SALUDA VA	93/33	WA4UAF	WASHINGTON CITY ARS NET	MON	2100
JACKSONVILLE NC	40/30	WD4CVO	RAPPANODCK ARC CLUB NET	4TH TUE	2100
KNOXVILLE TN	90/30	WB4BB	ONELAND ARC NET	WED	2100
LAFOLLETTE TN	07/67	WA4TZG	MIDEASTERN TENN EMERG. NET	M-F	2100
LANCASTER SC	10/70	WC4AAW	CAMPBELL CO 2-MTR EMERG. NET	THSN	1900
LAURENS SC	25/85	WA4UZA	LANCASTER CO. NET	SUTH	2030
LAURINBURG NC	025/625	WR4AOK	LAURENS COUNTY ARS NET	SUN	2030
LEXINGTON SC	7.235/6.835	WR4AGX	SAND HILLS EMERGENCY NET	DAILY	1930
LUMBERTON NC	96/36	WR4BDU	LEXINGTON CO RACES NET	WED	2100
LUMBERTON VA	01/61	WR4AXD	LUMBERTON ARC NET	MF	2000
MANTED NC	34/94	W4PCN	LYNCHBURG TWO METER FM NET	TUE	1900
MARTINSVILLE VA	885/285	AB4L	FESSENDEN ARC NET	WED	2000
MORGANTON NC	75/15	WR4AQI	PATRICK-HENRY EMERG. NET	SUN	2030
MORRISTOWN TN	63/03	WB4OAH	W. PIEDMONT VHF NET	SUN	2030
MYRTLE BEACH SC	01/61	WA4KGN	LAKELAND EMERGENCY NET	TUE	2030
NEW BERN NC	01/61	WB4JMS	GRAND STRAND 2-METER NET	WED	2100
NEWBERY CTY SC	58/18	WB4CJ	NEW BERN ARC NET	TUE	2000
N. WILKESBORO NC	22/82	WB4PZA	NEWBURY COUNTY ARS NET	WED	2100
N. AUGUSTA SC	13/73	WR4AB8	FOOTHILLS RACES NET	MON	2100
OAK HILL WV	19/79	WD80QB	STATELINE NET	LAST SUN	2000
OAK RIDGE TN	72/12	K4EAJ	PLATEAU ARC NET	FRI	2000
OAK RIDGE TN	28/88	WA4SKH	EAST TENN HOSP NET	TUE	2000
ORANGEBURG SC	69/09	WR4AQY	ANDERSON COUNTY ARS NET	MON	1900
PRATT WV	4.87/5.47	WBFG	VHF NET	THU	2100
RALEIGH NC	04/64	WR4ACF	KFC 2-METER NET	MON	2030
RALEIGH NC	28/88	WR4AOE	RARS NET	DAILY	2000
REIDSVILLE NC	25/85	K4YFT	PIEDMONT COASTAL TFO NET	DAILY	2100
ROANE CTY TN	72/12	K4EAJ	ROCKINGHAM CTY. ARC NET	TUE	2100
ROANOKE VA	385/985	WR4AFY	ROANE COUNTY ARS NET	TUE	2000
SALISBURY NC	13/73	WR4AAA	ROANOKE VALLEY ARC NET	WED	2000
SALISBURY NC	75/18	WB4CJJ	CENT. NORTH CAROLINA TFC. NET	DAILY	2100
SUMTER SC	04/64	WR4AOI	CENTRAL CARO. ARS NET	TUE	2130
SUMTER SC	615/015	WD4CEQ	SUMTER RPTR. ASSN 2-METER NET	MON	2100
TAZEWELL VA	75/15	WA4QKH	SARA-2 METER NET	MON	2000
TIDEWATER AREA VA	37/97	WA4KXV	TRI-COUNTY 2-METER NET	SUN	2000
WHITE HALL SC	31/91	WR4AQL	STARES NET (S. TIDEWATER ARS)	M-F	2100
WINCHESTER VA	22/82	WR4AGT	COASTAL AREA 2-METER NET	TUE	2100
WINSTON-SALEM NC	04/64	WA4GIC	SHENANDOAH VALLEY SERVICE NET	DAILY	1915
			FORSYTH COUNTY ARC/RACES NET	WED	2100
APPOMATTOX VA	144.25		VIRGINIA SSB NET	THU	2100
GREENSBORO NC	144.25		NORTH CAROLINA S.W.O.T.	TUE	2100
GREENVILLE SC	145.20		SOUTH CAROLINA S.L.O.T.	TUE	2100
KNOXVILLE TN	144.25		EAST TENN 2-METER VHF NET (AM)	TU, TH	1900
MEMPHIS TN	144.25		MEMPHIS 2-METER SIDEBAND NET	MON	2100

SIX METERS

CHARLOTTE NC	50.40		CHARLOTTE HORNET NET (AM)	SUN	2100
CLEMSON SC	50.125		DIXIE NET (SSB)	W, SN	2100
KNOXVILLE TN	50.40		EAST TENN 6-METER VHF NET (AM)	MF	1900
RICHMOND VA	50.25		CENTRAL VIRGINIA NET (AM)	DAILY	1900

220 MHZ

ASHEVILLE NC	2.34/3.94	WA4BVV	PISGAH 220 NET	SUN	2100
EASLEY SC	2.46/4.06	WA4VH	ALTAMONT ARC 220 NET	MON	2030
HILLSBOROUGH NC	2.34/3.94	WA4WTX	PIEDMONT 220 NET	TU, TH	2100

440 MHZ

RALEIGH NC	432.09		THE EAST COAST 70 CM NET	WED	2100
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CVRA OFFICER NOMINATION FORM

To Nominating Committee:

The below named person(s) are nominated to office(s) listed below. The persons nominated have been contacted and have expressed a desire to serve if elected. The nominee is a **FULL MEMBER** of CVRA-SERA and is eligible to hold office in the organization. It is understood that this nomination from the floor, signed by myself and three other full members will be added to the nominating committee's list of nominees. If this nomination is the only one submitted for this office, that person shall be elected to the office. If more than one is nominated for any one office, an election will be held by written ballots mailed to every full member of CVRA-SERA.

Office person is nominated for _____
(President, Vice-President, Secretary or Treasurer)

If more than one nominee, use xeroxed copy or similar sheet of paper.

Name of nominee _____ Call _____

Address _____ Phone _____

Is A representative of _____ repeater (a full member)
(Call-City-Freq)

Person has been contacted and has agreed to serve to best of his ability if elected to the office nominated () Yes

Include brief Biographical sketch of nominee and his achievements in Amateur Radio and /or CVRA-SERA. (Use separate sheet of paper)

This nomination certified by me _____ Call _____
member of repeater _____, a full member of CVRA-SERA.

Three other full members:

_____ call _____ repeater _____

_____ call _____ repeater _____

_____ call _____ repeater _____

Other full members must sign their signature personally.

Mail form with attached Biography to Nominating committee chairman:
Charles Durst, WA4WTX, 5508 Hallmark, Rd., Durham, N.C. 27712

30th annual ROCK HILL HAMFEST OCTOBER 4, 1981

* * * * * PRIZES * * * * *

LOCATION: Joslin Park on lake Wylie.
TIME: 0700-until; prize drawing-1400.
TALK-IN: 146.43/147.03 and 146.52.

Each registration includes one prize ticket. Wives and children are admitted FREE. Noon meal will be available in the park.

Pre-register and \$ave, plus get a free chance on an ICOM IC2AT. You DO NOT have to be present to win this or any one of the major prizes.

PRE-REGISTRATION -----\$2.75
REGISTRATION AT THE GATE ---\$3.50

1st KENWOOD TS-830S

2nd TO BE ANNOUNCED

3rd TO BE ANNOUNCED

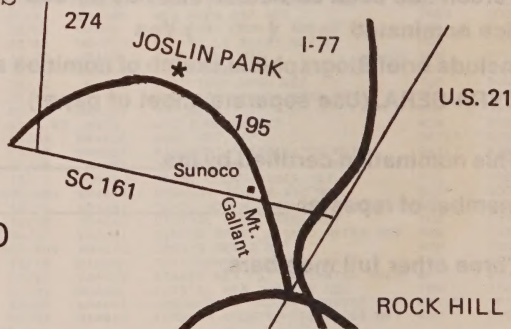
PRE-REG. ICOM IC2AT

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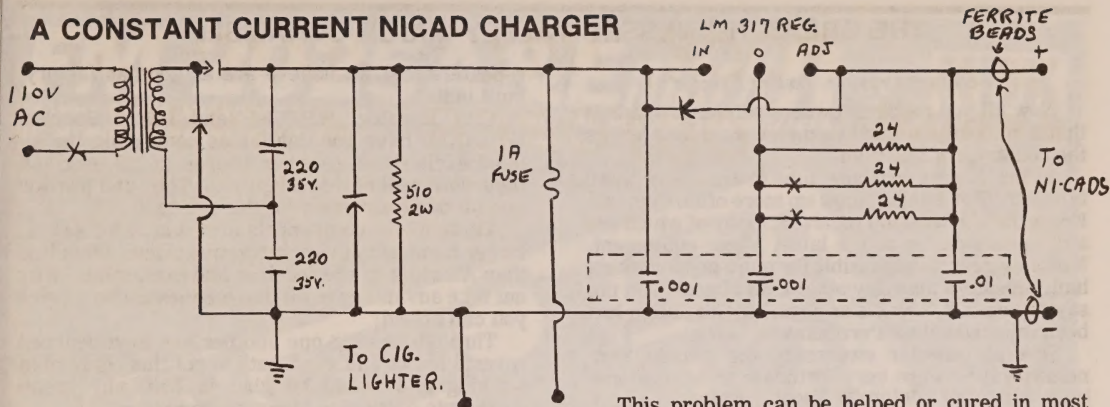
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A CONSTANT CURRENT NICAD CHARGER



W.O. Conrad K4BE and Andy Pitts WA4GIC

In the May issue of the CVRA Journal we published the circuit for the constant Current Charger. The circuit functions well but application in the field often shows up little problems. When this charger is used with a Handie Talkie, utilizing a Rubber Duckie or Whip antenna in near proximity, a hum level may be present when transmitting. This is caused by the intense RF field upsetting the regulator LM 317.

This problem can be helped or cured in most cases by adding RF bypass capacitors as shown in the dotted box of the diagram. All leads should be kept very short. The actual value of the capacitors is not critical. The values shown have worked in several cases. In one case it was necessary to add a Ferrite Bead to the two leads as shown.

In one very stubborn case it was also necessary to change the value of the voltage doubling capacitors to 470 mfd. In this case, several LEDs had been added to the circuit as indicators and the charger was working near it's current limits.



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THE GREAT TENNESSEE VALLEY MICOR SCRAMBLE

—by Sam Kirby, Tn. District Director

Now all you repeater owners will have to admit that a majority of our two-meter machines across the country are Motorola.

Either in part or whole, tube or transistor those familiar "Bat Wings" show up more often than not. From the old Sensicon receiver, many of which are still in service, up to the latest Micor equipment, Motorola gear is responsible for more good-working ham repeaters than any other kind of gear. I'm not saying brand X, Y or Z is no good, but this author has been injected with a Permakay®.

Several repeater owners in the middle Tennessee Valley were very fortunate to have a one-time supply of Motorola Micor receivers, audio-squealch-boards, exciters, power amplifiers and pre-amps. With these boards and some home-brew techniques, we have turned out several "micor"

SHORT STUFF!

What goodzit gonna do me to join the CRVA or whatever club, I don't believe in that stuff . . . we don't have any such dumb organization where I come from, this is W6@@@ . . . kerchunk. "Yeah, I've heard" . . . kerchunk.

repeaters that we believe are as good as factory-built units.

Cliff Hensley, WB4NKL and Larry Broyles, WB4NKM, have gone as far as converting the hi-band exciter and receiver boards to 220 mhz and they work well at that frequency. They will provide info on this conversion for the asking.

These Micor components are usually for sale at larger hamfests at very attractive prices, often less than Amateur-grade receiver and exciter kits. Why not take advantage of all that engineering at a price you can afford!

Through helping one another, we have learned several tricks and short-cuts to get this equipment working and would be glad to help any group wishing to convert to Micor equipment.

These local repeaters are now using Micor equipment. (Knoxville) 13-73 WB4IOB, 146.40-147.54 WA4TEM, 675-075 K4HDX, 222.86-224.46 WA4YON, 52.64-53.64 WA4YON, 52.15-53.15 WB4IOB, 449.5-44.5 WA4YON. (Greeneville) 10-70 W4ANB and 223.34-224.94 WB4NKM.

We welcome anyone traveling through the area to use these machines. In fact all the area machines are open and chances are you'll be talking through a "Micor".

SALES OPPORTUNITY

Sales Agent for General Electric Manufacturer's Representative selling communications systems. We have opening for sales professionals in local territories. Must have sales experience and be capable of opening new accounts. Salary plus commission for first three months, then liberal commission plan.

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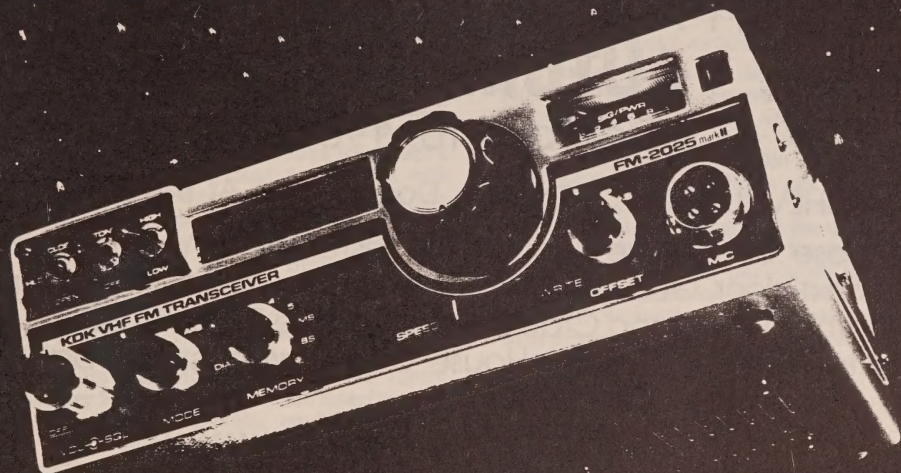
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E. 144 - 148.9875, RCV only in 12.5KHz steps.
144 - 145.9875, TX in 12.5KHz steps.

A NEW 4-bit micro-processor with a KDK "IN-HOUSE" developed program continues all the features of the original 2025 family. Basic control initializing commands are fed to the computer through simple diode matrixes. These commands may be changed by shifting a few diodes. This gives maximum flexibility to cope with unexpected future changes which may occur as a result of change of operating region or a change in regional and national band plans.

"EASY TO USE" DURING MOBILE OPERATIONS IS THE PRIME OBJECTIVE OF THE KDK DESIGN TEAM. THROUGH ACTUAL USE, KDK IS CONVINCED THAT ROTARY TYPE SWITCHES PERMIT OPERATION BY FEEL ONLY AND ELIMINATES THE NEED TO WATCH PUSH BUTTONS, LED'S, ETC., TO MAKE CORRECT OPERATING CHANGES. OF COURSE, A RIG WHICH IS SO EASY TO USE IN THE CAR MEANS EASY OPERATIONS AT THE HOME SHACK!

RELIABILITY IS ANOTHER MUST FOR KDK. USE OF THE LATEST SPACE AGE LSI'S REDUCES THE NUMBER OF COMPONENTS TO DRAMATICALLY REDUCE THE FAILURE RATE. NO CONNECTORS, SOCKETS, OR WIRE WRAPPING ARE USED AND ALL CONNECTIONS ARE SOLDERED. NO RELAYS; SOLID STATE SWITCHING ONLY. STILL, KDK ENGINEERS APPRECIATE THE NEED FOR EASY ACCESS TO ALL COMPONENTS FOR SERVICING AND NO SPECIAL JUMPER CABLES, ETC. ARE NEEDED.

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October 10, 1981

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Talk In 31/91 - 16/76 - 52

Pre Registration Requested

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220 MHZ EQUIPMENT AVAILABLE IF YOU LOOK FOR IT

—By Wayne C. Williams, K4MOB

The availability of 220 mhz equipment has been running hot and cold over the past few years. Major manufacturers have been hesitant to come out with equipment designed for 220 mhz. for one of two reasons: (1) they weren't sure as to the status of that band for future Amateur use and (2) the Japanese and third world nations do not have a 220 mhz band, only Region II, and feel this won't justify research and manufacturing of radios for 220 mhz.

I have been a supporter of 220 mhz for about 6 years now, because I feel that two-meters will ultimately fill up and become overcrowded in our area like we already experience in large areas like New York, California and Florida. 220 mhz is very similar to 2-meters and like 440 mhz. has many available channels to place repeaters to alleviate future conditions of crowding on 2-meters.

Obviously everyone putting on a repeater wants to go 2-meters, it's only natural, but prospective repeater owners wanting to plan for the future should consider 220 mhz. Many choice interference-free frequencies are available, enabling "super repeaters" to be constructed with wide coverage. We have such "super" repeaters now in our territory in Durham, Sauratown Mt., Asheville (NC);

MIND BREAKER

The king appointed a prime minister who made a mistake. The king ordered the prime minister beheaded, only to have the situation repeat itself again and again.

He finally appointed one Sam Kirky as prime minister who performed faithfully and with perfection for many years, but Sam finally did in fact make a mistake.

The king, realizing he could in all probability not replace him with anyone of an equal degree of capability decided to give him another chance.

Prior to having Sam placed in a coma the king told him "when you awake, you will be in a room with only two unmarked doors. One door leads to the guillotine; the other door leads back to your office. In the room will be only two people, each of whom know the direction leading from each of the two doors. One person is sworn under the pain of death to tell you a lie regardless of the question you might ask him. The other person is sworn under the pain of death to tell you the truth regardless of the question you might ask him. You will be permitted to ask only one question, must point out the person to whom the question is directed, and immediately leave the room via one of the two available doors."

The next day Sam was at his desk as usual. What question did he ask?

Mind Breaker Answer is On Page 62

Greenville and Knoxville (TN); Sassifras Mt., (SC) and ultimately one coming in Virginia near Galax to join the good Tyson Corner machine. There are numerous other medium and short range 220 mhz repeaters on the air.

WHAT ABOUT EQUIPMENT?

If you're considering the possibility of getting on 220 mhz, there are a few manufacturers with equipment on the market today, and a couple others planning equipment in the near future.

Inexpensive under \$200 Clegg FM-76 and Midland 13-509 transceivers can be bought new by checking magazines for availability. These 12-channel radios along with the defunct Cobra 200 have been the mainstay of 220 for several years now. Recently Yaesu introduced their 12-channel FT-127 with a price tag in the mid \$200s. Tempo still has their S2 synthesized handheld on the market with prices ranging in the mid \$300s.

If you watch flea market tables at hamfests you might pick up used 220 mhz equipment. There are still a lot of discontinued Regency HR220 radios around along with the Clegg FM21 and the Genave GTX-100. Tempo also once sold the CL220 radio. All these used versions are 12-channel crystal type radios which are more than sufficient to allow you to get on another band at an economy price.

Rumors persist of handhelds being available in the future from at least one major manufacturer, possibly two, but we have been unable to confirm for sure that they are indeed ready to step into the world of 220.

Most manufacturers take the position "there isn't enough activity on 220", but they apparently don't remember how 2-meters grew in the 70's and how many of them were late getting started with equipment. It seems apparent they wish to miss the boat again with 220 mhz. Sooner or later they will realize that the band is the most likely band to start becoming populated with Amateurs. In fact it's already well underway, California is already crowded on 220, Florida is filling up fast and other larger areas are moving fast. It seems that the manufacturers are the only ones who are not doing the moving.

CORRECTION!

In our Campbell Soup Can Antenna story last issue there was a typographical error. This in no way affected construction of the antenna, but to a technical man, it could have been questionable.

On page 23, the second paragraph, fourth sentence should have read: "this very high impedance matches the impedance of an end-fed 1/2-wave length antenna." The fraction 1/2 was printed accidentally as 1/4.

And You Think You Got Troubles

—by Dan Renfro, WA4PXV

Dear Sir:

I am writing in response to your request for additional information. In block number 3 of the accident report form, I put "trying to do the job alone", as the cause of my accident. You said in your letter that I should explain more fully, and I trust that the following details will be sufficient.

I am a bricklayer by trade. On the day of the accident, I was working on the roof of a new six story building. When I had completed my work, I discovered that I was alone and had about 500 pounds of brick left over. Rather than carry the bricks down by hand, I decided to lower them in a barrel by using a pulley which was fortunately attached to the side of the building at the sixth floor.

Securing the rope at ground level, I went to the roof, swung the barrel out and loaded the brick into it. Then I went back to the ground and untied the rope, holding tightly to insure a slow descent of the 500 pounds of brick. You will note in block number 14 of the accident report that I weigh 135 pounds.

Due to my surprise of being jerked off the ground so suddenly, I lost presence of mind and forgot to let go of the rope. Needless to say, I preceeded at a

rather rapid rate up the side of the building.

In the vicinity of the third floor, I met the barrel coming down. This explains the fractured skull and broken collarbone. Slowed only slightly, I continued my rapid ascent, not stopping until the fingers of my right hand were two knuckles deep into the pulley. Fortunately, by this time I regained my presence of mind and was able to hold onto the rope in spite of my pain.

At approximately the same time the barrel of bricks hit the ground the bottom fell out. Without the weight of the bricks, the barrel now weighed about 50 pounds. I refer you again to my weight in block number 14. As you might imagine, I began a rapid descent down the side of the building.

In the vicinity of the third floor, I met the barrel coming up. This accounts for the two factured ankles and the cuts on my legs and lower body. The encounter with the barrel slowed me enough to lessen my injuries when I fell onto the pile of bricks and fortunately, only three vertebra were broken.

I am sorry to report that as I lay there on the bricks, in pain, unable to move and watching the empty barrel six stories above me — I again lost my presence of mind and let go of the damn rope.



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SOUTH CAROLINA Governor Richard W. Riley signed a proclamation recently naming the week of Sept. 18 - Oct. 4 as Amateur Radio Week in South Carolina. The Governor mentioned the State's oldest Amateur group, the York County ARS which was formed in 1947 and joined them in observing the week. In the photo above, various club officers from around the State were on hand to witness the Governor signing the proclamation. Representing ARRL was Richard McAbee, W4MTK, South Carolina SCM. Al Harney, South Carolina Director of CVRA-SERA was also present.

State of South Carolina Office of the Governor

Proclamation by Governor Richard W. Riley

ON AMATEUR RADIO WEEK

WHEREAS, amateur radio is an association of persons interested in the fascinating field of electronic communication who are constantly seeking by various means to improve their art; and

WHEREAS, amateur radio operators in South Carolina and around the world are actively participating in communications with each other in a responsible and public service-oriented manner; and

WHEREAS, amateur radio operators also make great contributions to community service by providing communications in times of emergency and disaster; and

WHEREAS, amateur radio operators contribute to worldwide understanding and communications by their dedicated efforts to their avocation; and

WHEREAS, these amateur activities are conducted without cost to the beneficiaries thereof, all expenses being borne by the Individual Amateur Radio Operators themselves as a part of their public service. It is fitting that we should recognize the contributions Amateur Radio makes to our State and our nation.

NOW, THEREFORE, I, Richard W. Riley, Governor of the State of South Carolina, do hereby join with the state's oldest amateur group, the York County Amateur Radio Society that was formed in 1947, in observing the week of September 18 through October 4, 1981, as:

AMATEUR RADIO WEEK

in South Carolina and commend this observance as being a worthwhile endeavor.

Richard W. Riley

GARA PROVIDES COMMUNICATIONS FOR SOCCER TOURNAMENT

—by Ernie Bonner NC4J

The Greensboro Amateur Radio Association which operates and maintains the K4SNI (01-61) Repeater in Greensboro, N.C. participated in the GYSA (Greensboro Youth Soccer Assoc.) second annual youth soccer tournament May 16-17. Over 150 teams from the eastern United States competed in the tournament which was held at ten different locations throughout the city. With WD4CVM (Dale Kelly) and WA4SOY (Phil Brinsfield) acting as net control operators, GARA provided total communications for over 18 hours throughout the two day event.

This included relaying of scores from the various locations back to a central control point, coordinating game schedules, permitting conferences among the officials, and even providing communications for concessions and medical aid.

Over 25 operators participated in the event which in addition to providing a service to the community at large also furnished the hams with a strenuous but rewarding exercise in operating skills.

TECHNICAL TIP

Thinking of going underground with the cabling for that new tower? Here are two hints:

1. Investigate using corrugated drain line used for septic lines, etc. It is much cheaper and easier to install than sections of PVC pipe. Be sure to get the solid variety and not the types with holes or slots.
2. Run a piece of small nylon rope along with your coax that is at least twice as long as the installed pipe. It can then be used as a pull-line when adding new cables to the installation.

WARNING!

Take this test before buying ham gear QUESTIONS:

1. AM I DOING BUSINESS WITH A FACTORY AUTHORIZED DEALER OR DISTRIBUTOR?
2. WHAT KIND OF BUSINESS DOES THE STORE ENGAGE IN?
3. WHAT ABOUT SERVICE FACILITIES?
4. WHAT ABOUT TECHNICAL SUPPORT?
5. DO THE STORE AND ITS PERSONNEL SUPPORT AMATEUR RADIO? ARE THEY ACTIVE HAMS?

ANSWER:

G.I.S.M.O. IS A FACTORY AUTHORIZED DEALER OR DISTRIBUTOR FOR YAESU, DRAKE, ICOM, DENTRON, KDK, WILSON, CUSHCRAFT, BIRD, TEMPO, SWAN AND KENWOOD. SO-CALLED SUB-DEALERS HAVE NO DIRECT RELATIONS WITH THE MANUFACTURERS WHOSE PRODUCTS THEY SELL. THIS CAN MAKE A BIG DIFFERENCE IF YOU HAVE PROBLEMS AFTER THE SALE. WE ARE IN THE COMMUNICATIONS BUSINESS. WE SELL AMATEUR, CB AND VHF BUSINESS BAND GEAR. WE DO NOT SELL TELEVISIONS, STEREOS OR SUB-MACHINE GUNS. WE ARE NOT IN THIS BUSINESS AS A SIDELINE. WE HAVE A FULL TIME SERVICE SHOP AND OVER \$30,000 IN TEST EQUIPMENT AND SPARE PARTS. WE WERE ALL ACTIVE HAMS BEFORE ENTERING THIS BUSINESS AND STILL ARE. WE ACTIVELY SUPPORT ALL CLUBS AND CLUB ACTIVITIES IN THE AREA.



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GANG**

Service Department
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by Mike Williams, KC4AO

Hark! What is that that stimulates by brain and brings me fond dreams of rare d.x., of tropo bending and the elusive E2 skip?

What a secret yearning makes my heart beat faster, causing me to gaze with longing at yon noble Cushcraft . . . perched and gleaming atop some remote telescope mast?

Alas, tis contest time . . . time to succumb to the challenge of the noble Knights of Newington, who have proclaimed this June weekend for the cherished event.

Seek ye power amplifiers . . . search far and wide for the mountaintops where ye shall plant yore stacked arrays, those knightly lances of transmission.

Pull, mates, on the guy wires! Make the shinning fortresses of r.f. reach to the heavens. Crank up the generators, those exhalted steeds of d.c. Let them roar, to spew forth the lifesblood of current.

Attach ye the transmission lines, those umbilical cords running to the mighty oaks of aluminum. It is time to venture forth, ye Knights of Hamdom. Grab yore mics, cast out yore CQs, exchange ye signal reports. Keep that log! Behold the checklist!

Ah, 52 simplex . . . woe 223.50. Wherefore art thou? Tis a tragedy! Know ye that the noble Knights of Newington have proclaimed that ye shall not bask in the pleasures of those two prized frequencies for more than four hours. Tis indeed a foul decision. Have not the Knights of Hamdom gained ye noble synthesized rigs? Do ye not have more simplex possibilities than 52?

Sleep, now. Sleep and dream of princely multipliers, for tomorrow ye may work Wyoming! Out, damn CQs! Be gone until another day. Tis time to sleep.

Behold the sun! Tis day two. Mount up and venture forth with ye CQs. Waste not time on 55 or 58. Tis barren. Beckon ye valet. Bid him bring more 807s. Fortify yourself for the final battle, for the daylight is waning.

With a flourish and a whimper, tis over. Time has flown . . . there is no more. Venture forth to examine the battlefield and seek yore comrades. Thy breast is filled with victory. But, thy stomach churns with the excesses of the past two days, and the private battle with those poachers on yon neighboring mountaintop.

Homeward! Bring yore logs and equipment. Seek the solitude of yore castle.

Bid a hearty hello to your maiden, yore life's companion.

I am returned, covered with glory!

"Take out the trash," says she.

You are home at last.

VVA AREA AMATEUR CLUB ELECTS NEW OFFICERS

—by Lyle Gaston, W8FG

The Kanawha-Fayette-Clay Amateur Radio Association elected new officers for 1981-82 at its regular June meeting held at the old Town Hall in Pratt, WV.

The new officers took over at the July meeting. The new officers are: Jim Miller WD8SCZ, President; Bud Morris WA8CML, Vice President; Dempsey Baker KC8AM of Boomer, re-elected Secretary-Treasurer; Lyle Gaston W8FG, Pratt, Publicity Director; Joe Roberts KA8IBO, Oak Hill, Program Director; and Jobill Campbell KA8CGU, Lansing, Net Coordinator. Miller and Morris are from Campbell's Creek and Gaston from Pratt, all in Kanawha County and Baker, Roberts and Campbell are from Fayette County.

The Program Director coordinates activity for the club's monthly meetings. That includes arranging for visiting speakers, acquiring films from the American Radio Relay League and arranging for equipment demonstrations by visitors or club members who are into some specialized field of Amateur radio such as Radioteletype or Slow Scan TV.

The net coordinator supervises operation of the club's weekly 2-meter FM net which meets on the club sponsored repeater, W8FG/R, each Monday evening at 8:30.

His duties include assignment of club members to act as net control operator each week. Weekly check-ins average about 25, some from the neighboring states of Ohio, Kentucky and Virginia. Those of the public with programmable scanners may eavesdrop on the weekly net by listening to the repeater's output frequency of 145.470 Megahertz. The W8FG/R Repeater was put on the air on June 19, 1980. It is situated at Lick Knob and affords coverage of the southern two thirds of the state. It provides mobile hams reliable two-way communication while traveling the West Virginia Turnpike and portions of Interstates 77 and 79 North out of the state's capital city of Charleston and Interstate 64 West to the Huntington area and East to around Rainelle.

The Club also voted at the June meeting to schedule another hot dog sale as fund-raiser and to start a promotion for the general public which will offer a scanner and a CB set as prizes. It will also sponsor several shooting matches in the fall prior to the start of the hunting season.

SHORT STUFF!

. . . . now if you can remember all 273 points I just . . . chunk (silence) kerchunk . . . "Gosh, did I talk the repeater down." . . . kerchunk. "Yes you did" . . . kerchunk.



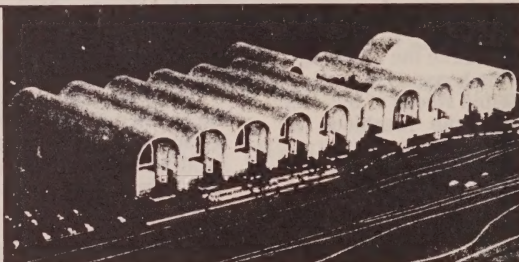
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- EXHIBITS AND FLEA MARKET SETUP — 0700
- CHILDREN UNDER 12 FREE.
- TALK IN STATION W4NV — Monitoring 13/73, 19/79, 37/97, 52/52 Simplex.
- INFO — Call (804)587-1695.

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_____ TABLES IN EXHIBITION AREA AT \$20.00/DAY (\$30.00 BOTH DAYS)	\$ _____

TOTAL \$ _____

**ADVANCE TICKET ADMISSION DEADLINE — SEPTEMBER, 10
MAKE CHECK PAYABLE TO TIDEWATER RADIO CONVENTIONS, INC.**

PLEASE MAKE YOUR RESERVATION EARLY!

ENCLOSE SASE

BILLS TO BE INTRODUCED IN NC LEGISLATURE FOR AMATEUR PLATES

-Special to the Journal
by Rae Everhart, K4SWN

Two years ago, the North Carolina Legislature voted into law a bill raising Amateur License Call Plates to \$10, in addition to the normal license fee. Since that time, several amateurs in the state have been working trying to get the lawmakers to change the law, since it is felt the added financial burden for Amateur plates was not fair.

Much lobbying, writing Legislators and submitting of petitions have finally reaped some good. Senator Joe Raynor of Fayetteville will introduce a bill more acceptable by Amateurs, while Representative Joe Hege of Davidson County will introduce the bill in the house.

The N.C. Legislature has adjourned for the Summer but will be back in session in November. It is hoped the bills will be considered at that Session, if not then, by the May 1982 session.

We Amateurs in North Carolina need to write to the Legislature and ask for Bill Consideration in

November and impress upon them why we want changes. Amateurs interested in writing should correspond with: Representative David Bumgardner, Chairman Transportation Committee (Where the Bill is assigned), P.O. Box 904, Belmont, N.C. 28012.

It is obvious the NC Amateurs will have to pay a fee for Call letter plates, just how much is the question.

Basically here is some of the consideration which Amateurs have asked to be introduced: (1) Issue Amateur license plates for a period of 5 years. (2) Allow persons to renew with stickers each year at current renewal sticker prices. (3) Allow Amateurs who own motorcycles to obtain call letter plates for the cycles and (4) Allow Amateurs to have some call sign on one or more vehicles with the addition of a number or letter after the call to identify each vehicle. (Ed.note: We received this news so late, we had neither space or time to publish the entire text of the proposal, we apologize.)

WEST TENN. WEATHER NET

—by Sam Kirby, WB4HAP

Recently while on the way to the Humboldt, Tn. Hamfest and just coming into range of the 37-97 Medina Repeater I heard: "There's been a tornado sighted just south of Blytheville, Arkansas". This was my first real encounter with the threat of a tornado. Being an east Tennessean, I am rarely exposed to severe weather. I listened intently while amateurs from some 10 west Tennessee counties gave current weather info to net control station Jim Owen WA4NIF.

The tornado sighting was just west of the Mississippi river and was heading east. It's route would surely bring it into west Tennessee. If it didn't dissipate first. As things turned out the weather front brought severe thunderstorms by the time it reached Jackson, Tn., where we were staying.

I was impressed with the need of such a net and the very professional way in which it was handled. Wouldn't you want to be well-informed if a tornado was headed your way?

Jim Owen WA4NIF and Dave Wolfe WA4VVX are net managers. They are organized as an ARES group and work very closely with NOAA and C.D. Dave is an employee of Civil Defense in charge of radio maintenance.

It's reassuring to see a volunteer amateur group work so smoothly and contribute so much to these two governmental organizations. NOAA and C.D. have nothing but good things to say about the west Tennessee weather net and the 37-97 Medina Repeater. Congratulations to Dave and Jim on a job well done!

TENNESSEE OUTSTANDING AMATEUR

Mel Farmer, K4TKQ was presented with a handsome plaque representing the Amateur of the Year. The award was presented to Farmer for his outstanding work in Amateur Radio and public service.

The Outstanding Amateur Award is given to some Tennessee Amateur each year by the Tennessee Radio Council. The presentation was made at the Oak Ridge hamfest by Dick Church, N4ARO, president of Oak Ridge ARC.

ARRL ROANOKE DIVISION CONVENTION AT VIRGINIA BEACH SEPT. 26-27

Tidewater Radio Conventions, Inc. again this year will play host for the 1981 ARRL Roanoke Division Convention. The two day event will be held September 26 and 27 at the beautiful new Virginia Beach Arts and Conference Center.

The 6th annual event will feature large flea market, hamfest and computer show inside the 63,000 square feet of air conditioned complex. Other highlights include DX, ARRL and Technical programs, XYL Lounge and Bingo. A cocktail party will be a main feature of Saturday night. Talk-in is on 13-73, 19-79, 37-97 or 52 simplex.

LATE ITEM!

John Dinkins, WA4KDB reported to the Repeater Journal that Marcus Setzer, WB4DYD died in late June. Marcus was formally trustee of the Boone (NC) 96-36 repeater. He was well known and well liked in the Central and Western Piedmont North Carolina area.

ROHN TOWERS AND ACCESSORIES

25-G STRAIGHT SECTIONS

We also have flat and sleeved top section, thrust Bearings, House brackets, short Base Sections, Rotor Plates, Guy Assemblies, 3/16 EHS Guy Wire, Cable Clams, Turn-buckles and other items.

ROHN TOP SECTIONS

If you have a 25-G Rohn Tower at the height you want, and do not have a top section, we have the new ROHN BAS-25-G cap section. It has a flat top, drilled for TB-3 bearing and a welded-in rotor plate. Length 20-inches.

OTHER TOWER ACCESSORIES

Aluminum mast — 2-in. OD 6061 tubing with 1/4-in. wall.

12-foot lengths, 19 lbs — IN Stock

24-foot lengths, 38 lbs — Special Order

Touch-up rust spots on your tower and antenna bolts with RUST-OLEUM, Cold Galvanizing.

Large 20-oz. Industrial spray can \$5.10

Mosley Penetrox grease — \$1.29

Mosley Weather Guard Antenna Coat — 8-oz. can. \$4.75

Many people have difficulty in water proofing and tying down hard line and multiple runs of cable to withstand years of weathering. We believe the following items are some of the best available for this purpose:

Scotchkote electrical coating made by 3-M Co. 15 oz. brush top can, can also be used for UNDER WATER CONNECTIONS.

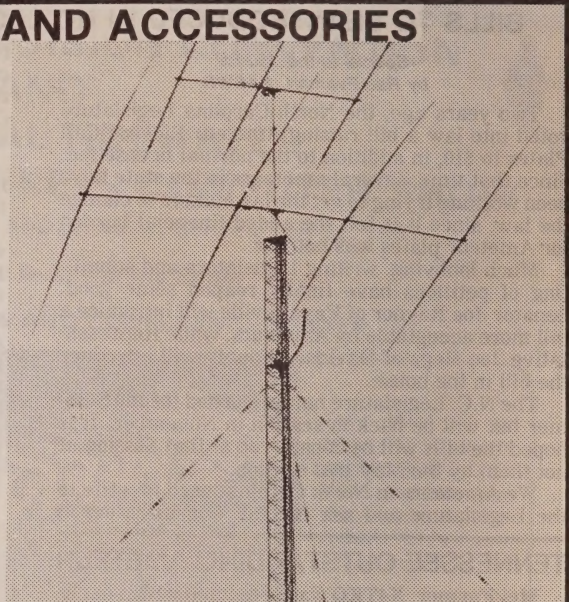
Will do 50-100 connections \$21.00.

Stainless steel strapping kits, for strapping hard line or multiple runs of Coax. Kits come with 25,50, or 100 ft. of stainless steel strapping and buckles.

25 ft. Kit — \$12.60

50 ft. Kit — 18.00

100 ft. Kit — 26.00



We can also supply 1/2 and 7/8" hard line in aluminum or copper. We also have a limited stock of hard line connectors. If we do not have the connectors you need, they can be supplied within approximately ten days.

If you want or need something not listed above, call us, we may have it or can get it for you. All of the above items are standard stock items and we will try to fill your order promptly. We have a limited variety of utility pole hardware and can supply utility poles in the Greensboro, N. C. area only.

Call us if you have a problem, we will design a system for you.

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- MIDLAND - 13-500.13-505.13-520
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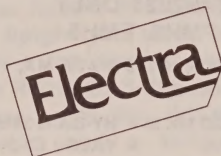


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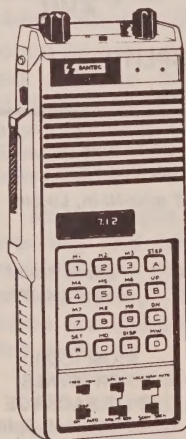


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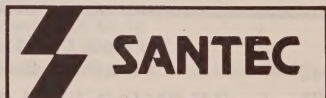
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MEMBERSHIP REMINDER FOR KEEPING EXPENSES DOWN

The CVRA REPEATER JOURNAL is no longer paying the U.S. Postal Service to forward your copy of the JOURNAL in case you moved and didn't send us a corrected address. We also have stopped paying for address corrections by the Post Office.

If you plan to move in the near future, don't forget to send the CVRA-SERA your change of address so that you will continue getting the Journal.

Journal Editor Wayne Williams, K4MOB said, "We felt that our readers were conscientious enough to send us changes of address without having to remind them." "We had bills in excess of \$900 last year, just paying the Post Office for incidentals like that, so we decided to cut out these unnecessary expenses in an effort to keep down membership fees."

If you wish to modify your address, change your call sign, or renew, use the handy application in this issue of the Journal, or just send a reasonable facsimile to CVRA MEMBERSHIP, P.O. Box 5655, Greensboro, N.C. 27403.

The same goes for FULL MEMBERSHIP. We often get verbal requests to change representatives or add reps and over the past have made numerous phone calls to straighten out mistakes or unclear instructions. To hold down expenses, we must refrain from all this and insist that any changes, questions or comments be written directly to CVRA MEMBERSHIP at the Greensboro Post Office Box.

All these things are designed to hold unnecessary postage, telephone and other expenses down. As long as we can break even publishing the REPEATER JOURNAL and providing necessary expenses, membership dues will remain at the \$3.00 Associate and \$8.00 Full rate.

CAN YOU TOP THIS???

Ray Sutcliffe, W4NI who was first licensed in 1915 reports he was going through some of his old QSL cards the other day, and he happened on cards from two locals.

Ray lives in Winston-Salem, N.C. and the locals he found cards for live 30 miles away in Greensboro. One card was dated April 8, 1932 was from Phil Wicker, W4CY in Greensboro. The other card was from Clyde Pleasants W4PW and dated May 17, 1932.

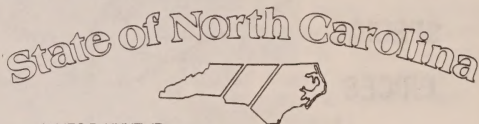
Ray has reconstructed some of his "old" ham and wireless radio days on tape for the REPEATER JOURNAL, and Mike KC4AO is in the process of writing a story about this fellow who dates back and remembers the sinking of the Titanic well. Ray has had some interesting calls over the years including 1NF and W4DKA. After 66 years an Amateur he is still active on 2-meters in the Winston-Salem, N.C. area. (Editor).

NC GOVERNOR HUNT PROCLAIMS AMATEUR RADIO WEEK JUNE 22-28

Governor Jim Hunt proclaimed Field Day week, June 22-28 as Amateur Radio Week in North Carolina. In his proclamation Governor Hunt recognized the benefits of public service performed by radio amateur operators.

The cities of Greensboro and Winston-Salem also recognized the week as Amateur Radio Week in the two respective triad cities and issued proclamations.

In Greensboro, the Greater Greensboro Hamfest kicked off the field day weekend with a Hamfest, flea market and exhibits. The local ARES chapter set up field day facilities at the hamfest and operated throughout the weekend.



JAMES B. HUNT, JR.
GOVERNOR

WHEREAS, operators in the Radio Amateur Service are licensed by the federal government to operate in the "public interest, convenience, and necessity" and take pride in serving their communities and nation while pursuing a satisfying hobby; and

WHEREAS, the Radio Amateur Service provides a continuously ready source of technically oriented personnel for business and industry, the ham population being a good indicator of the technical and educational level of an area; and

WHEREAS, radio amateurs promote international good will through free and informal communication with hams throughout the world; and

WHEREAS, North Carolina benefits from the activities of its practicing radio amateurs and it is fitting to recognize their contributions to our state;

THEREFORE, I proclaim June 22-28, 1981,

AMATEUR RADIO WEEK IN NORTH CAROLINA

and commend this observance to our citizens.

By the Governor:



SHORT STUFF!

"Well, I'm at the QTH so guess I'll QRT and QSY into the house" Wait a minute! . . . kerchunk "What" kerchunk lemme look all that up before you go kerchunk.



BOOMER

32-19

SEE ALL CUSHCRAFT ANTENNAS

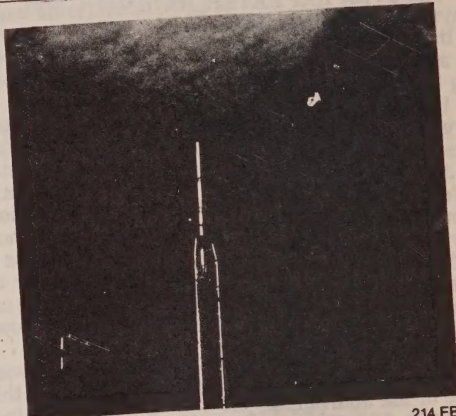
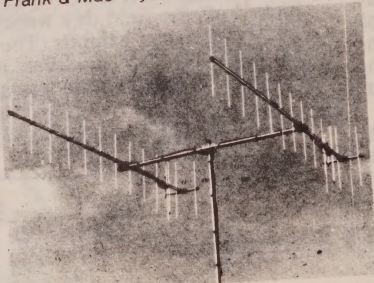
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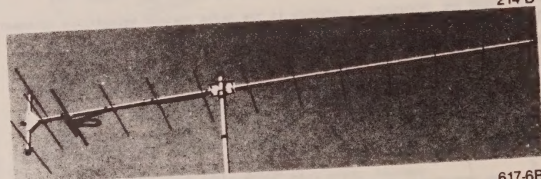
Frank & Mae Wyatt

228 FB

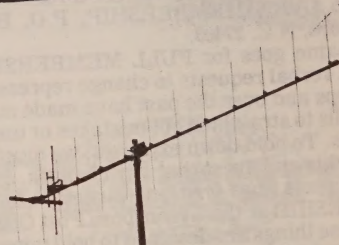
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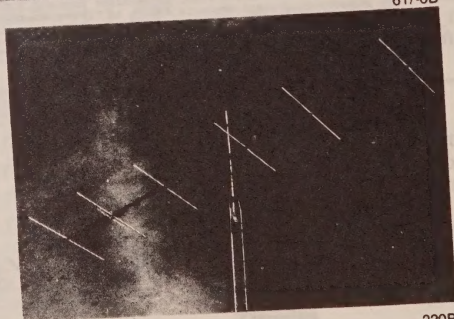
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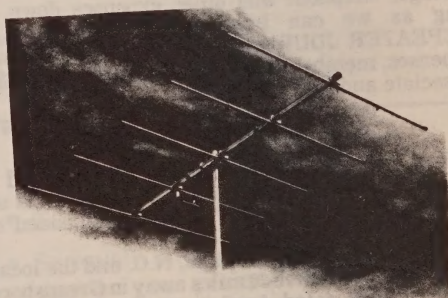
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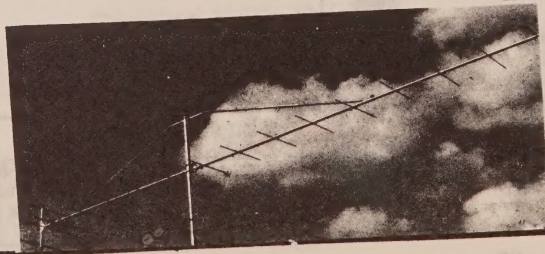
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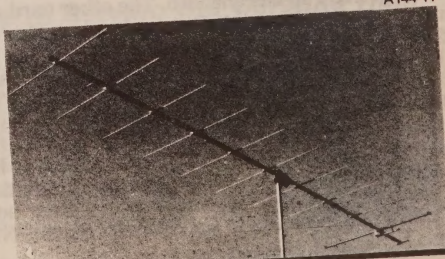
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2-METER TELEVISION?

—by Roaul E. Wright, K4EAJ

Of course we have 2-meter television, everyone should know that. Don't believe it? Well listen around 145 MHz with a half decent 2-meter receiver and antenna; and if you are one of the lucky (or unlucky) ones, you can listen to the picture and sync "buzz" of Channel "E".

Well, just what is this Channel "E" stuff? It all started with me some months back when my repeaters (Oak Ridge, TN, 75-15 and 72-12) came alive one evening with strange sounds. Being an old TV mechanic, I recognized the signals as television video along with the sync buzz which the repeaters were broadcasting all over creation. The repeaters were shut down; and in a couple hours the signals went away.

I began pursuing these signals that were operating in our "exclusive" 2-meter band and found that the 2-meter band is not so exclusive; television has moved to 2-meters, that's right, 2-meter television. Here is how it works. Since there are only channels 2-13 in the VHF TV band, the cable TV companies feel that they need more channels; therefore, they have opened up a new TV band. Pushing UHF Channels 14-83 down the cold co-ax is pretty hard and requires expensive equipment. So why not use some of the space between channel 6 and channel 7, no one should mind; existing cables and line amplifiers are compatible.

For only a few more bucks a month on your cable TV bill, you too can have a box (converter) installed for these new channels in the Knoxville area and probably other areas as well.

The channels are designated by the cable TV companies as channel "A" through (I guess) channel "Z". Channel "A" starts down in the aircraft band and extends up through the VHF spectrum. Each channel uses the standard 6 MHz bandwidth per channel and 4.5 MHz separation between the picture and the sound as they do on normal TV channels. The video of channel "E" falls within the 2-meter band on 145.25 MHz; and the audio is on 149.75 MHz, up in the commercial radio band.

Well, what's the problem? The TV signals are all contained in the cable which is strung up on telephone poles with shielded 30 dB amplifiers here and there to spread the signals all around town. It appears that the TV signals keep crawling out of the cable for some strange reason. In my pursuit of information about this system, I discussed with a manager of one of the local cable companies about

this distribution system, and he told me that he was authorized by the FCC to share the 2-meter band with amateur radio operators. His restrictions were that he could not radiate more than 10 millivolts of RF, measured at 10 feet, from his cables (sounded high to me). When I mentioned about TV signals getting into the repeaters, he said that he would check his equipment. He later called back; and his equipment was fine, so it must be "that other cable outfit" down the street.

I sent an inquiry to the FCC, Cable Bureau Complaint and Information Branch, and a copy to the ARRL to learn more of this "authorized" 2-meter operation. To date, no response from the FCC; ARRL responded immediately and advised to keep in touch if the interference persisted.

So, when you hear video crawling around in the 2-meter band, or when your friends and neighbors complain about your 2-meter radio, remember there are others that use the 2-meter band as well. Incidentally, channels "A" and "B" which operate in the aircraft band is now closed in the Knoxville area due to aircraft communication interference; I guess pilots just don't like television!

TEKNIKLE TOPIX

Continued From Page 10

does give some important information is to find the average output voltage, E_{avg} , of the filtered dc supply:

$$E_{avg} = \frac{2E_{pk} - f_r(E_{pk})}{2}$$

$$E_{avg} = \frac{2(24.156) - 0.15(24.156)}{2}$$

$$E_{avg} = 22.34 \text{ vdc}$$

This voltage is useful in determining much of the power lost in our regulator circuit due to heat. For example, we said that the regulated output voltage was 13.8 vdc at 16 amps. By applying Ohm's Law, the power lost across the regulator, P_{diss} , can be determined:

$$\begin{aligned} P_{diss} &= (E_{avg} - E_{reg})(I_L) \\ &= (22.34 - 13.8)(16) \\ &= 136.64 \text{ watts} \end{aligned}$$

You may think that the previous calculations seem rather difficult but really they are not with the calculators that are now available. The biggest advantage that you will have is that the correct transformer and filter capacitor have been chosen. Now you can do it on your own. Oh, by the way, these calculations are valid for high voltage filtered dc supplies too.

SHORT STUFF!

CQ, CQ, CQ the repeater this is W4@@@, CQ the Repeater kerchunk. "This is the repeater, can I help you." kerchunk.

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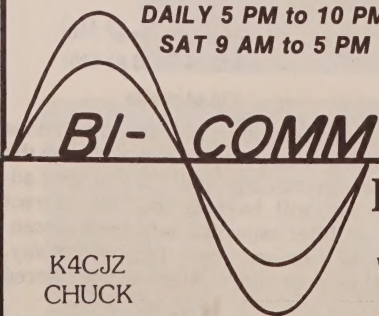
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Chattanooga, The Dynamo of Dixie

—by Clyde Hendee, K4KTC

Chattanooga, Tennessee, the name no one can spell or pronounce like a native, is taken from an old indian word which translates roughly - "The scenery is great, but the traffic will total your tepee".

To save you hunting a map, Chattanooga is located plumb up against the Georgia line on the south, about 25 miles east of the Alabama line, and nearly 60 miles west of the North Carolina line.

The name of our affiliated club - Chattanooga, Tri-State FM Assn., reflects membership, and repeater coverage of north east Alabama, north west Georgia, and south east Tennessee.

Chattanooga lies at the confluence of the Tennessee River, Interstate 75, and Interstate 24, the latter two forming the Florida Funnel as they merge in eastern Chattanooga. The number of snowbirds swarming from this point through Georgia to the sunshine state during a cold winter make General Sherman's storied march to the sea pale in any comparison - except that the tourists leave money instead of pillage. The real Daytona 500 is Interstate 75 from the Tennessee/Georgia line, to the warm sandy beaches. Try it some time, it'll cringe your Cutlass.

The Chattanooga area is surrounded by many varied tourist attractions such as Lookout Mountain, Rock City, Ruby Falls, Point Park (battle above the clouds), worlds steepest Incline Railway, The Chattanooga Choo-Choo/Hilton Inn complex, home of Krystal Hamburgs, Chickamauga National Military Park with the worlds largest military rifle collection, Reflection Riding Nature Center, Tennessee Valley Railroad Museum with operating steam trains, Anna B. Houston Museum with priceless collections of crystal and glassware, the world cup hang gliding facility, TVA Raccoon Mountain pumped storage generators, TVA/EPRI electric vehicle test facility, hundreds of cannons and plaques detailing the battle of Missionary Ridge, and much, much more. You should really spend an hour or so here some time, and see the place.

The Chattanooga, Tri-State FM Assn., is the emergency communications affiliate of the local American Red Cross Chapter, and we meet on the first Friday of each month unless a holiday indicates a change. CTSFMA currently operates four repeaters, with a fifth computer repeater in the planning stages. The club was formed in September of 1968 with thirteen charter members, and currently show almost 250 members in the roster.

In order of ascending frequency, the club machines are KB4TZ on 144.79/145.39, K4CMY on 146.01/61, W4DSK on 146.19/79, and K4VCM on 223.18/224.78. The calls indicate the trustee of each

repeater, except that K4VCM is also trustee of 19/79.

The 145.39 machine is located on Signal Mountain, about 1200 feet above downtown Chattanooga, overlooking the metropolitan area, and the valley in general. The repeater is of Motorola hybrid vintage, and is capable of potent wattage. At this point no bells, lights or whistles have been added, so it is a good, open conversation spot.

The 146.61 machine is located south of downtown on Lookout Mountain. It too is about 1200 feet above the valley, and is the only local machine that works well to the west, or towards Nashville on I-24. The repeater is a Spectrum 1000 modified to work satisfactorily, so provides another conversation spot. It is equipped with emergency power and resident computer experts.

The 146.79 machine - known locally as channel 19, or the 24 hour talk station, is located on Signal Mountain, north west of downtown. It has an infernal chime machine (known in some circles as an autopatch), but the patch is somewhat tricky, so ask for the ten commandments before trying to make a call. Since it resides about 400 feet up on a WDEF TV tower, the general coverage is excellent, except

Continued on Next Page

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Sept. 26-27 Va. Beach, Va.
Oct. 4 Rock Hill, S.C.
Oct. 10 Asheville, N.C.

CHATTANOOGA, THE DYNAMO OF DIXIE

Continued from Page 57

to the west. It has emergency power, and is the most likely spot to make a contact.

The 224.78 machine is also on Signal Mountain, and is generally monitored most of the waking hours. The coverage is again excellent except to the west, and it is equipped with an autopatch. The codes are a little tricky, so please ask for help with a phone call.

Plans are not firm for the computer repeater, so I suggest you contact either W4DSK, or WA4HRX for further information if you are interested. Other area coverage repeaters are, WA4ZOK/R 147.60/147.00, Signal Mtn., 223.30/224.90 at the same location, also 439.25/427.25 on fast scan TV. 147.81/147.21, KC4EV about ten miles south down Lookout Mountain, also 146.715/146.115 about ten miles down I-75 in Ringgold, Ga. 147.78/.18 is located east of Cleveland at about 3000' MSL, so works well from Chattanooga to Knoxville.

Also a 144.630/145.230 is on the air in Dalton Georgia down I-75. A 147.99/39 is operating in Dayton, TN, about 30 miles north on US 27, a 146.31/91 is on the air in Scottsboro, Alabama down US 72 towards Huntsville, and a 146.37/97 is located on Monteagle Mountain near I-24 towards Nashville. Once you cross Monteagle to the Nashville side, a bunch of machines are available to cover middle Tennessee. If I have forgotten any repeaters, please forgive my galloping middle aged memory. To my knowledge, all of the repeaters listed here are open for general use. The only restriction is the autopatch on 147.60/00, which is open to Tennessee Valley Repeater Assn. members only. If anyone is listening, you should be heartily welcomed on any and all machines in the area.

A general club net is held on 19/79 every Sunday at 2100 local time, and a weather and emergency practice net is held each Tuesday, & Thursday on 01/61 at 2000 local time. The local computer buffs rest their typing fingers, and join in a net at 2100 local time on Thursdays using the 01/61 machine. Their bark is worse than their bite. A newly announced 'YL' net is being held on Wednesdays on either the 19/79 or 01/61 machine depending on which one provides better coverage to those checking in.

Other clubs in the area with formal meetings are the Chattanooga Amateur Radio Club which meets on the 3rd Thursday of the month at Chatta. State Community College, The Cleveland Amateur Radio Club, The Ringgold Amateur Radio Club, and a newly formed Rossville (Ga.) Amateur Radio Club.

Besides being "on call" with the local Red Cross Chapter, CTSFMA tries to uphold our commitment to public service by participating in various local activities. The Multiple Sclerosis Bikeathon is an annual event with about 20 amateurs participating, the local Civil Defense office has called on us

FULL MEMBERSHIP - MOVING!

—by Gerry Butts

Full Membership Chairman

We broke a record in May and passed last years all-time high mark in repeater memberships. Entering July we had over 190 repeater groups who had signed up over 275 repeaters in SERA territory.

A goal of 300 repeater members is within sight and we may make it before the year is out. Our organization has picked up a large number of new "first-time" members this year, but a disappointing number of 1980 members failed to renew.

Each November, the full membership committee mails a letter and an application to each Full Member on record. The 1981 year brought us an all-time record of early renewals, and after the February, many procrastinators sent in their application after seeing they had forgotten to send it in earlier. Things were quite slow during the summer months, with only a trickle of applications coming in.

Full Membership of 300 repeaters sounds good, but this is not a majority. With 5 states represented we now have over 750 repeaters in our territory, so we must grow rapidly in membership to encompass the two additional Districts. We have limited success in these areas, but we still have a long way to go. Two of our older districts still show a disappointing minority membership.

If you note your home repeater has an "N" placed beside it in our Directory, why not ask them to consider joining our organization.

several times during simulated emergencies before the Sequoyah Nuclear Plant was licensed. Last year we also assessed flood damage for the Red Cross, then they gave us a course in assessing damages. Our most ambitious project was a week long affair for the National Soap Box Derby Rally with low band liaison at the headquarters motel, units at the race track, plus several units to coordinate welcoming and awards activities in the downtown area. All day every day can strain your list of volunteers a bit.

Our club activities include an annual Christmas Party, a summer picnic, a chili supper, and meeting night trips to places of general interest such as the Sequoyah Nuclear Plant, TVA Power Control Center, Ma Bell's new electronic switching office, plus in house programs both related, and unrelated to amateur radio. Our meeting attendance varies from fifty to seventy with free coffee, cokes and donuts at the break as an incentive.

This may give you a capsule view of what is available in the Chattanooga area, and hope that some of you will decide to either visit us, or become residents of the area. As an imported damnyankee of some 30 plus years ago, I can attest to the fact that it's a great part of the country to live in.

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(Chuck Rourk, WD4GDH)

LENOIR NC REPEATER GETS NEW CALL AND FACE LIFT

-by Gary Hartley K4HTV

The gathering of the clans on Grandfather Mountain and the gathering of the clan on Hibriten Mountain both occurred on Saturday, July 11, 1981. The Hibriten clan didn't have any bag pipes, but they did perform some feats!

On June 6, 1981, WR4ARG, signed off the air for the last time. The repeater license having expired, a new call was placed into the IDer for the Lenoir machine. KN4K/R, now echoes forth from the Lenoir repeater on the Hibriten Mountain at 2384 feet. The call is that of Bud Ayers, Trustee of the old WR4ARG.

Over the years, very few repairs have been necessary to this repeater, but time takes its toll. The sensitivity on the Motorola amplifier were not sounding as strong as it once did. Having just recently received a new call, it only seemed fitting that some face-lifting was needed for the repeater.

So, at 7:30 AM, Saturday, July 11th, the Hibriten clan began gathering at the foot of the mountains. By 8:40 AM, Little Gary, WB4FJV and a new-comer to towers, Mike, N4FAX, were 95 feet up the repeater tower, ready to begin work. With the aid of Jerry-N4BDI, Gary-K4HTV, Kevin-WA4WAC, Scott-WB4YZA, and two friends Bobby and Mitchell, the two tower climbers put-up a new receive antenna and installed new coax to it. While this was being done, Jerry and Gary replaced the old coax to the transmit antenna and made some needed adjustments to it.

By 11:30 AM, Sybil-N4BCV, Ruby-KA4CLI, and three harmonics, Mark, Leta, and Michelle, had arrived on the mountain top with Ruby's "Bronco Tank", loaded with a "Clan Food Feast." All work ceased for the next hour while the group enjoyed the picnic lunch.

After lunch, tune-up procedures began on the repeater. The signal generator, VOM, frequency counter, and watt meter were brought out and the ground work started. By 2:00 PM, the receiver was improved from 4 mv to about 1 mv sensitivity and the transmitter was repeaked. It was discovered to our amazement, however, that some of the receiver tubes, after only 6 years of continuous operation, needed replacing!!! They just don't make things like they used to! Naturally, somebody had forgotten the little brown bag of replacement tubes and they were still sitting on the work bench about 12 miles South!

Checks with other hams in the area revealed, however, that the improvements were noticeable.

So around 3:30 PM, the clan loaded-up and headed down the mountain. One yellow jacket sting, a scratched knuckle, a bump on the head from a dropped tap, 95 feet up, and a few chiggars, rounded-out

the injury list. Gary's bald spot got sunburned, but that wasn't considered an injury by anyone except him!

On Wednesday, July 15th, Jerry, Gary, and Duane-N4AVU, returned to the repeater site with new tubes and tuning instruments. By 5:00 PM, the receiver had all good tubes and the sensitivity was down to .5 mv, with cavities in line! The transmitter was peaked-up to 18 watts at the antenna. Checks with area hams indicated there was a marked improvement in both receive and transmit, so the face-lift was complete.

Technical assistance and support were given by Bud-KN4K, Alice-N4BJE, Bob-WB4BLE, Ed-WA4MTC, Mike-WB4UVY, Bryan-WD4HDX, Tom-KG4V, Judy-KA4COJ, Paul-WD4HBB, and Whitey-W4EZX. Although these folks were not able to join us on the mountain, their help and support was much appreciated and helped make the improvements possible.

The Hibriten clan is looking forward to the next gathering on the mountain, which is not supposed to take place until 1987!

On your way to Tweetsie, Grandfather Mountain, or the Land of Oz, this summer or fall, try-out the Lenoir machine. The clan will be listening. Best 73's.

FINANCIAL REPORT AS OF JUNE 30, 1981:

INCOME:	TOTAL-81	TOTAL-80	NET CHANGE
Advertising	1760.40	1542.25	218.15
Associate Memberships	4012.52	3795.00	217.52
Full Memberships	954.00	670.00	284.00
Miscellaneous	11.59	27.95	16.36
TOTAL INCOME TO DATE	\$6738.51	\$6035.20	\$ 703.31
EXPENSES			
Journal Mailing	890.70	549.04	341.66
Journal Printing	3781.71	2111.88	1669.83*
Officer/Directors	414.96	284.73	130.23
Miscellaneous Printing	257.71	34.22	223.29
Miscellaneous Expenses	105.03	45.00	60.03
Postage	352.67	149.41	203.26
Returned Checks	25.25	0	25.25
McLaurin/Bartlett	650.00	305.12	344.88
TOTAL EXPENSES			
TO DATE	\$6477.83	\$3479.40	\$2998.43
Beginning Balance		\$2433.79	
Carried over from 1980,			
McLaurin/Bartlett		336.71	
Income to date		6738.83	
Expenses to date		6477.83	
TOTAL CASH ON HAND			
JUNE 30, 1981		\$3031.18	

Carl E. Smith, N4AA
Treasurer
P.O. Box 6843
Asheville, N.C. 28816

*Large Difference is due to billing dates on
Journal Printing last year.

CALENDAR

1981 HAMFEST CALENDAR

AUGUST

- 23 East River ARC Hamfest, BLUEFIELD, W.VA.
30* Hamfest, MORGANTOWN, W.VA.

SEPTEMBER

- 5 CVRA-SERA Annual Meet, SHELBY, N.C.
5-6 24th Annual Hamfest, SHELBY, N.C.
14 Hamfest, GAITHERSBURG, MD.
26-27 Roa. Div. ARRL Conv., VIRGINIA BEACH, VA.

OCTOBER

- 4 30th Annual Hamfest, ROCK HILL, S.C.
4* Hamfest, ROME, GA.
10 W. Car. ARS Autumnfest, ASHEVILLE, N.C.
10-11 Hamfest, MEMPHIS, TN.
24-25 Hamfest, CHATTANOOGA, TN.

1982 HAMFEST CALENDAR

JANUARY

- 10* Frostfest '82, CHESTERFIELD, VA.

FEBRUARY

- 6-7 Florida State ARRL Conv., MIAMI, FLA.
21* Winter Hamfest, ELKIN, N.C.
21* Winterfest, VIENNA, VA.

MARCH

- 13-14* Hamfest, ORLANDO, FLA.
20-21* Mechlenburg ARS Hamfest, CHARLOTTE, N.C.

APRIL

- 11* RARS Hamfest, RALEIGH, N.C.
23-25* Dayton Hamvention, DAYTON, OHIO

MAY

- 1-2* Tri-City Hamfest, JC/KINGSPORT, TN.
2* Hamfest, GREENVILLE, S.C.
15-16* DFMA Hamfest, DURHAM, N.C.
22* Gaston Cty. Hamfest, GASTONIA, N.C.
22-23* RACK Hamfest, KNOXVILLE, TN.
23* RVARC Hamfest, ROANOKE, VA.
29-30* Greater GBO Hamfest, GREENSBORO, N.C.

*Tentative Dates for 1982 Hamfests. These dates are computed on same weekends as shows were held by clubs in 1981 and remain unconfirmed until we hear official word of the exact date scheduled for the hamfests. Clubs sponsoring hamfests should mail the Hamfest date the CVRA REPEATER JOURNAL Editor as soon as decided.

CVRA ASSOCIATE MEMBERSHIP

CLIP OR XEROX THIS HANDY APPLICATION AND PASS ON TO A FRIEND TO JOIN CVRA!

NOTE: Membership deadlines are 2 weeks prior to publication month. Applications received after deadline will receive next regularly scheduled Repeater Journal, February, May, August or November.

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CLASSIFIED

If you have equipment you would like to swap, sell, buy or trade you're invited to send us your want ads. Mail them to our Sales Manager listed on page 1 of the Journal. Ads are not limited to Amateur Radio items.

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Ads must be submitted 30 days prior to publication. The CVRA assumes no responsibility as to the accuracy of description of equipment or its condition.

SAVANNAH HAMFEST - Amateur Radio Club of Savannah Hamfest at Savannah, Ga. October 24 and 25. Inside Exhibits & Flea Market. For More information write: ARCS HAMFEST P.O. Box 13342, Savannah, Ga. 31406

HENRY 2K-4 AMPLIFIER. Mint condition with manuals. \$950.00 firm. F.O.B. Winston-Salem, N.C. ELECTRONIC ACCESSORIES, 1168 Burke Street, Winston-Salem, N.C. 27101. (919) 723-4567.

FOR SALE: Kenwood TS-820S with AT-200 antenna tuner. Used less than 25 hours. Original packaging and manuals. Excellent condition. \$850.00. GREG, N4DCJ, Rt. 5, Box 408, Covington, Va. 24426. (703) 962-5984.

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WANTED: Want to buy Duplexer for 6-meters. Must be in good shape and working. SID PURVIS, 5111 Meadowbrook Drive, New Bern, N.C. 28560. (919) 633-5586.

WANTED advertisers for our 3,600 customers who read the REPEATER JOURNAL. To get the full story on JOURNAL advertising, contact our Advertising Sales Manager. His name and address is on Page one.

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AD AND NEWS DEADLINES

NOV. - JAN. ISSUE Oct. 1, 1981

ANSWER: TO MIND BREAKER

If I should ask the other person which door leads to the guillotine, what would be his answer? (It is immaterial which person answers, the answer will be a lie.) — Raymond Adams

CHATTANOOGA HAMFEST OCT. 24-25

The annual Chattanooga (Tn) hamfest will be held October 24 and 25 at the Chattanooga State Tech. Community College. The event will feature contests, acres of Flea Market, Forums and new equipment dealers. Dealer reservations may be made by calling Maxine Barrett, N4ECA at (404) 398-3358. Other information may be obtained by writing: Hamfest, P.O. Box 3377, Chattanooga, Tn. 37404. Special hamfest rates will be available at Rodeway Inn on I-75S at the East Ridge Exit.

WANTED: AN/MS connectors, cutoffs, or New, Cannon, Bendix, etc. Also Synchros, Tubes, Waveguides, components, and Military Surplus Equipment. Contact: BILL WILLIAMS, P.O. BOX 7057, NORFOLK, VA. 23509.

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age technology, each die will be an exact duplicate of your original. All you need is our reference number to re-order. No prints. No samples. Does it all sound too good to be true? Why not make us prove it? Call us the next time you need speedy service on a really difficult job, we'll show you what fast precise die service really means.




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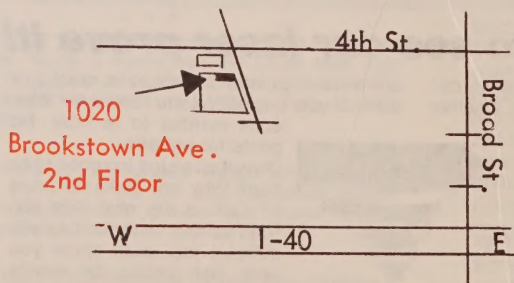
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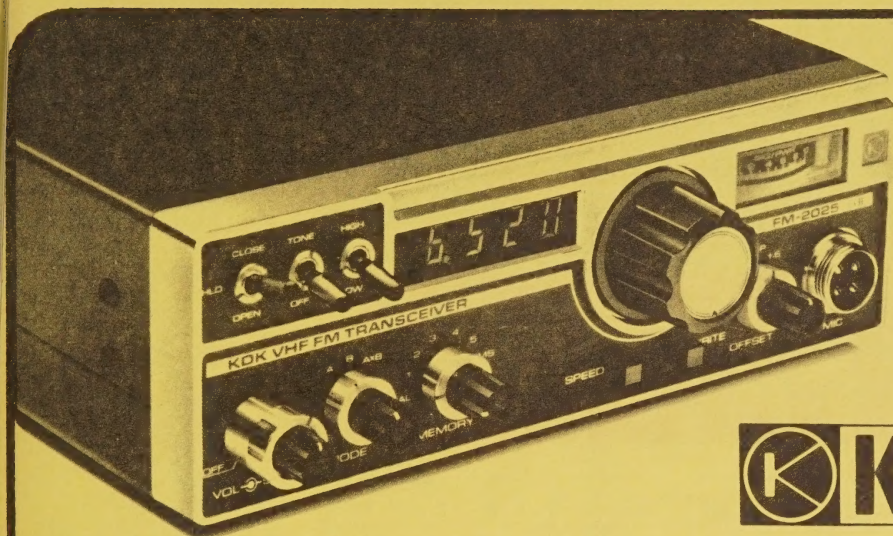
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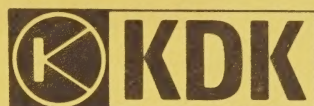
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